AUGUST 1956

FIREMEN

SIXTY-FIRST YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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Drill Tower of the Florida State Fire College

(See page 6)

Automatically "breathes" for the victim . . .

assures greatest chance of recovery . . .

M-S-A® PNEOLATOR

Successful "saves" with the M-S-A Pneolator are in the rescue records of fire departments all over the country. This instrument has been brought into play in cases of drowning, electric shock, poisonous or suffocating gases and heart attacks. Victims, from 8 months to 80 years, have recovered . . . thanks to the alert action of the firemen . . . the effectiveness of the Pneolator.

This unit intermittently inflates the lungs to a predetermined point, then cuts off to permit exhalation by the natural recoil of the chest and diaphragm. The action is automatic, continuous. When the victim starts breathing, the Pneolator automatically follows the natural breathing pattern. There is no suction cycle.

Pressure is regulated by simple settings that compensate for varying lung capacities. Two facepieces—for adults and children—are standard equipment. The unit is portable, and comes equipped with a half-hour oxygen supply. Write for details.

Note: The first few minutes after breathing has ceased are the most critical. Manual artificial respiration should be started immediately, and continued until Pneolator is in use.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M-S-A man on your every safety problem . . . his job is to help you

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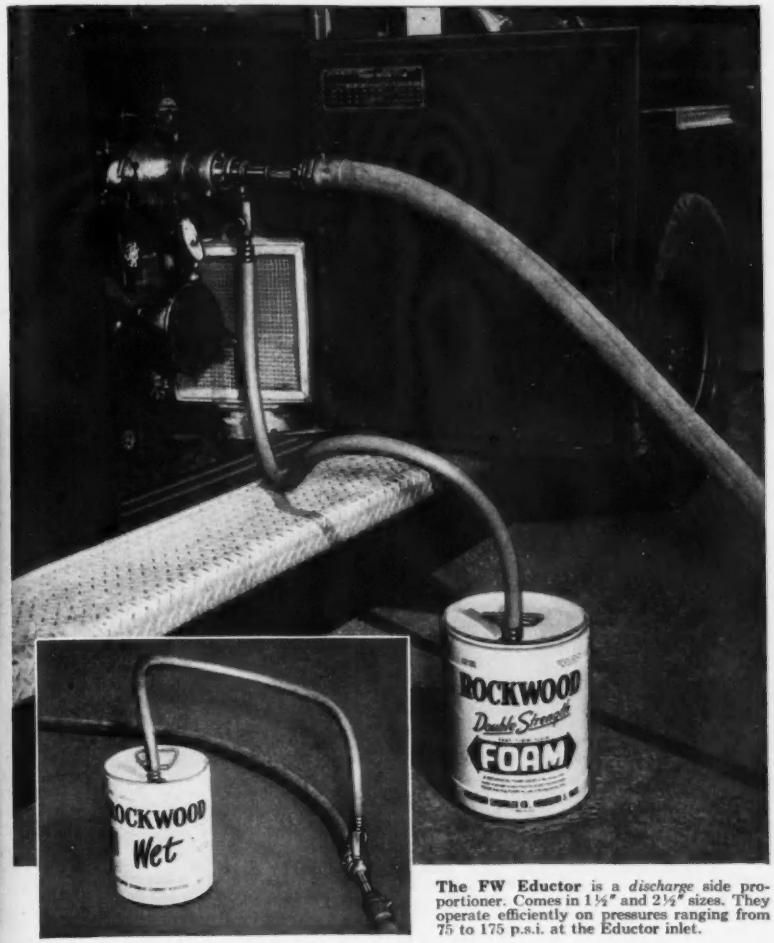
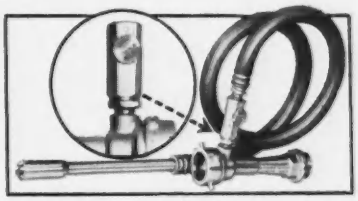


The FW Eductor is a *discharge* side proportioner. Comes in 1½" and 2½" sizes. They operate efficiently on pressures ranging from 75 to 175 p.s.i. at the Eductor inlet.

FFF Nozzle comes with Foam screen and solid Foam stream shaper.

SG-60 Nozzle with FF extension unit.

Rockwood Eductors are designed for use with both the Rockwood FFF nozzle and the SG-60 nozzle with FF extension unit. SG-60 is an all-purpose nozzle that fights fires 5 ways — high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or of FOAM, FF extension unit discharges Rockwood FOAM in a solid stream or as FogFOAM, and covers large areas at one time.



The Variable FW Metering-Check Valve on the Rockwood Eductor is highly versatile, and is furnished with each FW Eductor. It incorporates both the Metering Valve and Ball Check Valve in one unit, and meters liquid into the hose line in any proportion from 1% through 6%.

Two for the road!

Protect against flammable liquid fire due to tank truck accidents

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The use of Rockwood FW Eductor reduces the danger of disastrous losses due to such a fast-spreading fire. Developed for operation with Rockwood's FFF nozzle and SG-60 nozzle with FF extension unit, the FW Eductor introduces Rockwood regular 6% FOAM liquid, Double-Strength 3% FOAM liquid or WET (1% or 2%) into the hose line, quickly controlling and extinguishing flammable liquid and other fires.

Rockwood FW Eductor is the simplest form of proportioning you can buy. Ideal for municipal fire departments, oil refineries and industrial plants, it can be attached between discharge gate of a fire truck and hose line, or between hydrant and hose line, or between two lengths of hose.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood FW Eductor when you order a fire truck.

Rockwood Double-Strength Foam Liquid, 3 parts mixed with 97 parts water, forms a solid FOAM blanket that quickly re-seals itself. Available in 5-gallon or 50-gallon drums.

Rockwood WET, 1 part mixed with 99 parts water, increases penetration and extinguishing action of water. Excellent for deep seated fires or where water is scarce. Can be used in proportions of 1% or 2% by volume for Class A and B fires. Available in 5-gallon cans or 50-gallon drums.

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Engineers Water . . . to Cut Fire Losses

PORTABLE FIRE PROTECTION DIVISION • 1523 Harlow Street, Worcester, Mass.

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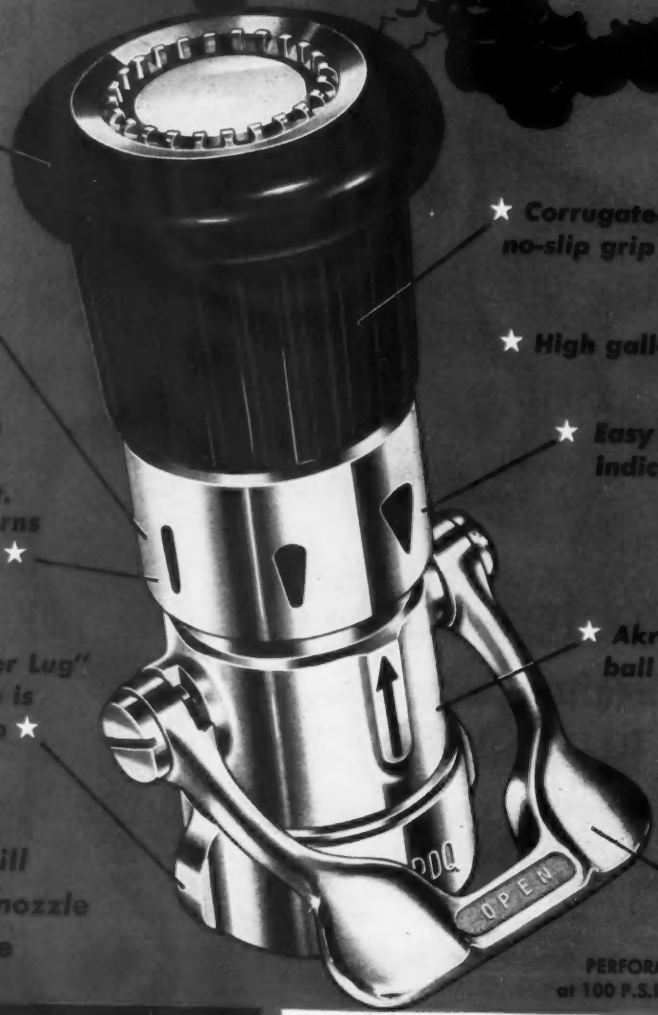
PDQ®

FOG NOZZLE



★ Resilient rubber bumper for protection against damage

★ Adjustable through all angles of fog

★ Positive stream positioning — by feel or sight. Clicks into fog patterns or straight stream

★ Swivelling "Rocker Lug" base — handle is always on top

You too will agree — finest nozzle of its type

★ Corrugated no-slip grip

★ High gallonage

★ Easy pattern indicators

★ Akron quality ball shut-off

★ Man-size handle

PERFORMANCE DATA
at 100 P.S.I. Nozzle Pressure

STYLE	SIZE	GPM	PRICE PB	PRICE CP
1209	¾"-1"	24	$67.50	$72.00
1218	1½"	95	72.00	76.50
1219	1½"	125	72.00	76.50
1229	2½" for PP	250	78.50	84.00
1239	2½" Dir. Con.	250	92.00	97.50
1249	2½" with PP	250	102.00	115.50

AKRON BRASS

FIRE FIGHTING EQUIPMENT

Akron Brass Mfg. Company, Inc. • Wooster, Ohio

Firemen

Volume 23 Number 8

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Contents for August 1956

	Page
Florida State Fire College	6
What to Do About Accidents	8
What Do You Ask for in Apparatus?	10
Two-Day Wanamaker Building Fire	11
Fire Problems Occasioned by Aircraft, Part IV, by Warren Y. Kimball	12
Driver Training Course in Prince George's County	14
Fires in the News	15
The Child — Your Best Customer for Fire Safety, by Roger Muir	16
Iowa Fire Laws	18
Fire Departments and Boy Scouts	18
The Short, Evil Life of a Fire, by G. Allen Grimm	20
Forest Fire Protection Compact	21
New Station in Conroe	22
New Training Center	22
First Aid in Colorado	23
Fire Record of Churches	23
British Fire Research, 1955	24
Fire Prevention Week Contest	25
New Members in NFPA	26
Suffolk County Conference	26
Training for Boat Fires	28
Fire School Dates	29
New Fire Equipment, Catalogs and Bulletins	30
Index to Advertisers	30

Cover Picture

It was only about 15 years ago that volunteer fire fighters in the State of Florida practiced evolutions on a simply constructed wooden drill tower which served as the facility for training by state instructors. Now the excellent, modern drill tower shown on this month's cover is on the grounds of the Florida State Fire College in Ocala. It is an example of what can be attained in a relatively short period of time when sincere members of the fire service make a coordinated effort to reach a goal.

The motto of today's Florida State Fire College is "Progress Through Education." Training at this center is ably supervised by Superintendent W. H. Barnett, assisted by three instructors who conduct classes at the College and itinerant training for fire departments throughout the state. As reported in the December, 1955 issue of FIREMEN, more than 1,000 fire fighters participated in the training program during the fiscal year ending June 30, 1955. With the completion of the new facilities and with the addition of special courses on liquefied petroleum gas, arson and maintenance for fire department mechanics, it appears that more and more Florida fire fighters will be exposed to the important education that leads to progress in the fire service.

Detailed description of the facilities at the Florida State Fire College will be found on pages 6 and 7 of this issue. Several other states in this country are in the process of obtaining funds for such training centers, or have already begun construction. Mississippi, Tennessee, South Carolina, Indiana, Iowa and Delaware are included in this group. It is hoped that many other states will progress in similar fashion towards the betterment of training facilities for the fire service.

Target for Fire Prevention

This year, the theme for Fire Prevention Week, October 7–13, will be "Fire Safety for Children." Special materials prepared by NFPA (see page 26) are designed to place full emphasis on the theme.

Fire fighters need little encouragement to support any practical campaign to increase the safety of children against fire. Traditionally the fire fighter has been regarded as the protector and rescuer of the child when fire occurs. Today, however, his protection extends beyond the active area of fire combat. He is accepted as a frequent visitor to schools. He gives well-planned talks and demonstrations for the young, supervises fire exit drills and structural conditions of the school, and makes appropriate recommendations to teachers and school principals. He has a greater awareness of public relations. Hence, in the fire station, he has a practiced routine for bringing the best response of interest from children who drop in for a visit. One measure of his success is the shining of admiration in the young watching eyes. Even a greater satisfaction comes to the fire fighter who learns that one of the youngsters whom he has instructed has acted intelligently and safely when fire occurred. For the fire fighter this is a reward as great as if he, personally, had carried the youngster to safety. In his talk during the recent 60th Annual Meeting of the NFPA in Boston, Chief Keith Klinger of Los Angeles County, California, referred to several of these instances where children had followed a fire fighter's instructions and lives were saved.

The field of education of children in fire safety is continually ripe for cultivation. (See pages 16 and 17.) For youngsters, the fire fighter can be an instructor of heroic stature, particularly since he can point out the "reasons why" with a background of practical experience. The coming Fire Prevention Week will provide excellent opportunity for directing a campaign of fire safety towards the most worthy of targets — the children in your community.

Florida State Fire College

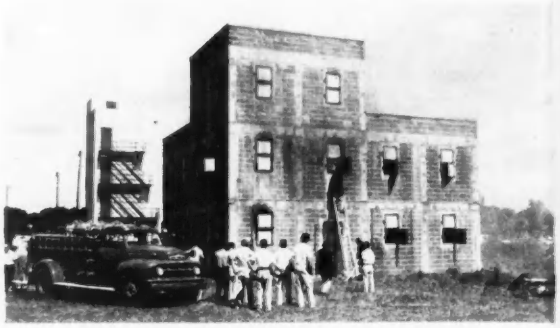
AMONG the recently developed training facilities for fire fighters are the new training tower and experimental building of the Florida State Fire College in Ocala. As reported in the December, 1954 issue of FIREMEN magazine, these buildings were completed in the Fall of that year and contain up-to-date fire protection equipment, as well as means for measuring fire conditions.

Classes of instruction cover many fire training subjects. There are two 4-week courses which include 30-hour units of training in basic subjects, such as uses of tools and breathing apparatus, forcible entry, hose and ladder evolutions, rescue, ventilation, salvage and overhaul, pump operation, fire stream hydraulics, fire department inspections and arson detection.

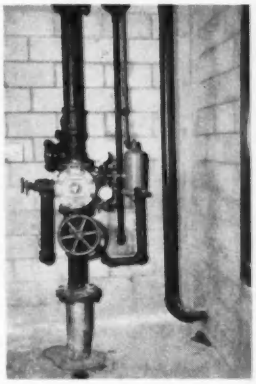
There are also training classes in advanced subjects, such as company officership, fire fighting tactics, instructor training, fire department administration and fire prevention.

During recent years the Florida State Fire College has been expanding its existing facilities, and planning new additions. At present the college grounds cover an area of approximately six acres. There is an office and classroom building, a fire station and maintenance shop, a training tower, and a training and experimental building. The classroom building has 5 rooms including facilities for visual aid instruction; a room for storage of nozzles, extinguishers and breathing apparatus; and a library consisting of training manuals of NFPA and NBFU pamphlets, textbooks and other publications used in fire service training. This classroom building measures approximately 40 x 110 feet, is air-cooled, and is constructed of concrete block.

The fire station and maintenance shop houses a 500 gpm pumper with a 350 gallon tank. This apparatus is used for instruction, and has two booster reels and two preconnected 1½-in. lines which can be operated with a wet water proportioner. The hose bed carries 1,000 feet of 2½-in. hose. In addition, the Fire College uses two American La France "Type 75" pumpers, one airport crash wagon and a trailer pump. Manufacturers have also provided several cutaway pump models for the training program.



View of training grounds at Florida Fire College showing experimental building in foreground and training tower in rear. Note hinged windows on experimental building. These are covered with vermiculite plaster to resist high temperatures. Here fire fighters make attack on second-floor fire while getting practice with hose and ground ladder evolutions.

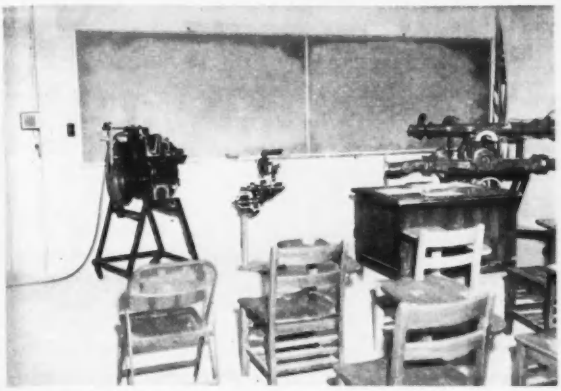


Fire training tower has sprinkler and standpipe systems to give students opportunity to be familiar with such installations. At right is a control valve of the sprinkler system.

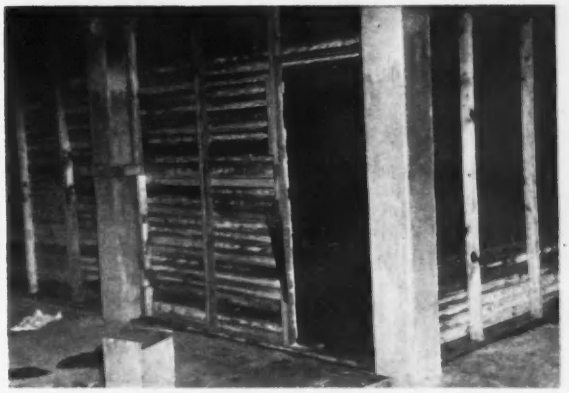
One of the pieces of fire apparatus used in training is this 500 gpm Pirsch pumper on a Ford chassis. It has a 300-gallon tank, two booster reels, two 1½-in. preconnected lines and a wet water proportioner. One booster line is of ¾-in. size; the other of 1-in. size. Both are equipped with fog nozzles.

The fire training tower is four stories high with a penthouse. It is of concrete block and steel construction and measures 21 x 21 feet. An interior stairway extends from the first floor to the roof. First and second floor sections of this stairway are enclosed and the third and fourth floor sections are open. There is a 4-in. standpipe system with 2½-in. outlets on each floor and the roof. A sprinkler system protects the first and second floors. Water comes from a 6-in. main connected to the city street water supply. Drains are provided throughout the training tower to permit quick drain-off of water used in fire fighting.

One wall of the tower has a steel fire escape with doors connecting to the second, third and fourth floors. On another side a blank wall extends the full height



Portion of the room where instruction in fire department pumps is conducted. Note working model in rear. Students have opportunity to examine and operate Seagrave, American LaFrance, Waterous, Darley and Hale pumps in this classroom.



Interior partitions of experimental building are made of combustible materials, to provide realism in fire spread. Walls being installed will form rooms where fires can be started and extinguished.

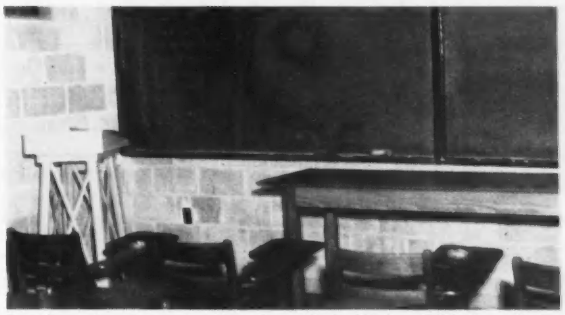
of the building, thus providing variety in ladder training. A third side features double hung windows and one mullion window and the other wall features casement windows. One awning-type and one double hung window are also installed on the ground floor beneath a fire escape. All window frames are of steel construction.

PERHAPS the most interesting facility at the Florida State Fire College is the training and experimental building. This structure, built of special heat resistant concrete block, is three stories high. The first two floors are 41 by 41 feet, while the third floor measures 21 by 21 feet.

To provide variety in fire fighting problems, a 4 by 6 ft. shaft, extending from the first to the third floor, has numerous openings. These may be closed individually to direct the path of fire travel. Primarily, the purpose of the shaft is to duplicate conditions which would arise in elevator shafts or stairwell openings. For any given fire problem the instructor in charge can permit fire to spread up the shaft to the second and third floors.

This building also features windows spaced at 10-ft. intervals on each wall. Window frames are made of angle iron covered with vermiculite plaster to provide high resistance to heat. Two trap doors in the roof of the second floor and one in the roof of the third can be operated manually, or will open automatically if excessive pressures are created by fire in the building. There are no permanent partitions within the structure. Partitions are of combustible material and may be installed in many sections of the building. Doors in this building are constructed of steel and asbestos. Above each door is a 1¼-in. perforated pipe through which water may be sprayed to cool the doors when fire is in progress.

Thermocouples with temperature range of 0 to 2400 degrees Fahrenheit are installed at 10-ft. intervals in all ceilings, at floor level and at eye level in four places on each floor. Temperature readings are recorded on a twenty-point potentiometer at two-second intervals, with all thermocouple temperatures recorded every forty seconds.



Another classroom in the air-cooled 40 by 110 ft. administration building which also has offices for staff personnel of the College.

Two views of the equipment and storage room where practically every type of appliance and tool used by the U.S. fire service is available for training purposes.

What to do about ACCIDENTS

WITH awareness of the injuries fire fighters can suffer on the fireground or in quarters, the Chicago, Illinois, Fire Department recently made a detailed survey of accidents which involved its members. The survey showed that the principal causes of serious and minor accidents were fundamental and avoidable. Accordingly, the memorandum shown on these pages was distributed to all fire companies. The first section (see red box) lists in order of frequency, the principal causes of accidents. This is followed by a detailed description of procedures to be followed to minimize accidents. Numbers in "procedures" paragraphs refer to pertinent numbers in "causes" section.

Accidents and injuries to fire fighters often lead to permanent pain or incapacitation. In addition, they mean loss of key personnel in a fire department and a tangible increase in operating expenses. As indicated by this survey, such accidents are common, ordinary events which can be kept to a minimum by careful action on the part of the individual and proper training and discipline by the fire department officers.

PRINCIPAL CAUSES OF ACCIDENTS IN THE CHICAGO FIRE DEPARTMENT

Causes of Accidents in Company Quarters

1. Tripping over fire or wash hose.
2. Slipping on wet floors or stairs.
3. Injuries received while cleaning apparatus or doing housework.
4. Using unauthorized equipment such as unapproved ladders and scaffolds for house cleaning and window washing.
5. Failure to wear proper gloves when drilling with ladders, hose or other equipment.
6. Improper method of sliding poles.
7. Cleaning, hoisting, rolling or loading of fire hose.

Causes of Accidents at Fire Scenes or Emergencies

1. Tripping over obstructions such as hose, ladders and other impediments.
2. Falling through unprotected openings.
3. Falling or slipping on slippery or ice-covered stairways, walks and pavements.
4. Contact with electrical wiring or equipment.
5. Failure to wear fire helmet, gloves or other protective clothing while engaged in the control and extinguishment of fires.
6. Hand, foot and body wounds or abrasions caused by exposed nails or sharp objects.
7. Improper use of fire axes and pike poles.
8. Improper method of lifting heavy objects.
9. Improper placement of ladders, especially ladders that do not reach the objective.

Causes of Accidents to Personnel and Apparatus en route to Fires or Other Emergencies

1. Careless or fast push-out of fire apparatus from quarters, causing structural damage to buildings and apparatus.
2. Failure to maintain complete manual control over fire apparatus under all conditions.
3. Excessive speed in responding to and returning from alarms.
4. Failure to proceed cautiously with fire apparatus along wet, slippery and icy pavements.
5. Failure of fire personnel to be alert for their own safety and the safety of others while responding to or returning from alarms.
6. Failure to secure safety belts properly while riding on fire apparatus.
7. Affixing fire axes in belts while fire apparatus is in motion.
8. Alighting or mounting moving fire apparatus.
9. Arbitrary acceptance of right-of-way for fire apparatus without positively determining that right-of-way may be traversed safely.

Causes of Accidents to Personnel and Apparatus Returning to Quarters

1. Failure of commanding officers to direct operator or driver in the observance of safe driving and the obedience of all traffic laws, rules and regulations.
2. Improperly *secured ladders, tools* and *other equipment.*
3. Failure of personnel to *secure* themselves properly to apparatus.
4. Alighting from apparatus *before* it comes to a complete stop.
5. Failure to halt traffic or properly guide apparatus when *backing into quarters.*

Accident Prevention Procedures

In Company Quarters

1-2-3

To reduce accidents sustained from these causes, certain steps are self-evident.

Officers commanding companies shall at all times instruct and admonish members of their companies to use extreme care and caution, when using fire or wash hose, doing housework or cleaning apparatus.

4. All units shall discontinue use of unauthorized or unstable ladders or scaffolds for window washing or other house duties.

5. Officers shall insist that all personnel wear proper gloves when drilling with ladders, hose or other equipment.

6-7 Officers shall insist on constant precaution and the use of proper methods of sliding poles as prescribed in the Manual Of Operations.

They shall further insist on or instruct men in the proper methods of cleaning, hoisting, rolling or loading of hose.

Accidents at Fire or Other Emergency

1-2-3-4-

Such accidents can be directly attributed to haste, enthusiasm, lack of vigilant observation and poor lighting.

"Haste Makes Waste." Over-enthusiasm, unless properly controlled, may prove to be the cause of many preventable accidents.

All personnel shall be constantly vigilant and observant in their actions. Where and when available proper lighting and judicious use of floodlights help reduce such accidents.

5-6 Officers shall insist that all men provide and wear proper work clothing, including helmets, boots and gloves.

Helmets provide very effective insurance against head injuries and turn aside broken glass and many other lightweight objects.

A great percentage of "duty attributable accidents" are foot injuries from exposed nails or other sharp objects. To alleviate this situation, it is suggested that additional protective material such as metal inner soles in shoes and boots be used.

7-8 Officers shall insist on or instruct personnel in the proper use of pike poles and axes.

Care should be taken in breaking windows, whether of plain glass or wired glass. Proper training is highly essential if such accidents are to be prevented.

Injury through strain is invariably due to lifting of heavy objects. Such injuries are entirely preventable, if firemen are instructed in the proper method of lifting and the precautions to be taken in this connection.

9. Appropriate ladders shall be used and placed at all times according to formula as prescribed in the Manual Of Operations.

Commentary — Accidents to Personnel

It is highly essential that continued drills in fire fighting evolutions be given to members of the department as prescribed in the Manual Of Operations and as required by the Book of Rules, Regulations and Procedures. However, personnel should be cautioned that overenthusiasm, unless properly controlled, may prove to be the cause of many preventable accidents.

The responsibility for caution, use of proper methods and training is the sole responsibility of company commanding officers.

Train men to be careful. Stress safety first, and accident prevention in all training, and thus make *your men accident prevention conscious.*

Accidents to Personnel and Apparatus en route to Fires or Other Emergencies

1-2-3-4-

The Officer in charge of any motor-driven apparatus should limit the speed of such apparatus to 3 or 4 M.P.H., while emerging from quarters and shall cause the apparatus to come to a full stop at the curb lines. The controlling of speed of apparatus under these circumstances prevents fast push-outs which may be dangerous to fire department structures, apparatus, personnel and to the public afoot or riding in vehicles.

It shall be the duty of the officer and operator of any apparatus responding to an alarm to determine that the apparatus is under control and they shall proceed cautiously when approaching a red traffic signal or "through street." Particular caution shall be taken when a citizen or police officer motions the apparatus through. There is the possibility that oncoming traffic may not hear or see the fire apparatus or may not heed the traffic warning.

The officer and operator of fire apparatus have the duty and responsibility of driving or propelling said apparatus with a degree of caution commensurate with safety to fire personnel and property and to the public in general. They further have the responsibility of arriving safely at the scene of fire or other disaster.

Caution must be exercised continually in situations where clear vision is impaired or when there is doubt as to what action a motorist or pedestrian may take in disregard of traffic signals.

5-6-7-8

All personnel shall be constantly on the alert for their own safety and the safety of others.

Officers of all fire department units shall determine that all personnel are in proper position on apparatus before leaving quarters.

The officer in charge of Hook and Ladder units shall determine that the tillerman is "properly clothed," "in position" and safety belt secured before apparatus leaves quarters.

Commanding officers shall instruct company personnel and enforce rule not to affix axe in belt until arrival at scene. They shall further caution all personnel not to alight from apparatus when it is in motion.

9. Many officers and drivers of the fire service are of the opinion that while responding to an alarm they have the absolute right-of-way and all pedestrians and motorists should *melt* out of sight.

According to the revised traffic code for the City of Chicago, fire or emergency apparatus responding to an alarm has the right-of-way when such right-of-way is properly exercised, but this does not relieve the officer or driver from the duty to drive with due regard to the safety of all persons using the highway.

In general, traffic laws require emergency vehicles to be driven at low speed passing arterial intersections and safety zones, and to slow down for passengers alighting from street car or bus until they reach the sidewalk.

On one-way streets, officers and drivers shall take every precaution when passing standing buses or street cars on the left. School children or passengers in a hurry often attempt to run across the street, passing in front of such standing vehicles.

Traffic signs and lights are placed at or near intersections to aid safe driving. It is well to remember they are only an aid and there is no guarantee they will be read or observed. Responsibility still rests with the officer and driver to travel along streets and across intersections without accidents.

Accidents to Personnel and Apparatus Returning to Quarters

1. Officers shall be responsible for and instruct drivers to observe all traffic laws, rules and regulations while returning to quarters.

2. Each company officer shall personally check and be responsible for the proper placing on and securing of ladders, tools and equipment to apparatus.

3-4 Before leaving scene, each company officer shall determine that personnel are properly secured to apparatus. He shall further caution all personnel not to alight before apparatus comes to a full stop.

5. No apparatus or other department vehicle shall be moved in or about quarters, at fires or when backing up, without being properly directed or signalled by an officer, a member of the company or other fire department personnel.

Accident Prevention Procedures (General)

After each run or change of tour of duty, the driver or operator of apparatus, under the supervision of his superior officer, shall thoroughly examine the apparatus in his charge. He shall determine that the brakes are properly set and the speed lever is in the neutral position. He shall check battery and oil and gasoline supply. He shall close tightly apparatus door and properly adjust and tighten all nuts and bolts or any parts of apparatus that have become loosened. His attention shall be particularly directed to the condition of the brake mechanism and the steering gear, and he shall report immediately all other defects he finds to his company commander.

When starting apparatus, for any purpose, the driver or operator shall refrain from excessive "gunning of motor."

Tire pressures shall be checked daily to insure safe recommended air pressures and battery shall be brought up to an adequate charge.

Tire chains shall be kept in repair and ready for use when traction is critically needed.

Apparatus or vehicle shall not be driven until windshield, rear windows and rear vision mirrors are free of ice, snow or other materials that might impair proper vision.

Motor driven apparatus shall not be serviced by gas dispensing trucks while in quarters.

When demonstrations are performed for citizens in quarters, all apparatus and equipment shall be restored to proper locations.

Hook and Ladder units shall not be moved for gasoline service, or relocated on the apparatus floor without a tillerman being in proper position. All movements shall be under the supervision of the commanding officer.

Commentary — Accidents to Apparatus and Personnel Responding To or Returning From Alarm or Emergency

Many officers and drivers of the fire service are of the opinion that while operating an emergency vehicle they have the absolute right-of-way. Many also say "Let the public get out of the way — it will be their fault if anything happens — we are protected by law." This is not entirely true. The traffic code of the City of Chicago allows certain latitude "*So long as it does not endanger life or property*"; "*the provisions shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons,*" nor "*shall the provisions protect the driver from the consequences of his reckless disregard for the safety of others.*"

Fire department personnel should not attempt to use the offensive — for their defense — and hide behind their faults and failures; they should educate and train themselves in safe and sane driving before blaming the public for careless and thoughtless driving.

The Medical Officer shall, in his routine examinations, and at such other times as prescribed or directed, examine drivers as to eyesight, color blindness, blood pressure, heart condition and such other physical defects which may jeopardize safe driving.

He shall report to the Fire Commissioner those drivers who in his opinion should be relieved of such duty.

A committee consisting of a Division Marshal, the Automotive Engineer and his assistants and such other personnel required, shall conduct tests and pass on the knowledge and ability of men to be assigned as drivers.

What Do You Ask for in Apparatus?

Here's a discussion of the new changes in NFPA Standard No. 19. Read them to make sure that you are specifying the right pumping capacity, power, and other items when you purchase new apparatus. Equally important changes have been made in other standards, listed on the next page. Write to the NFPA Publications Department for copies.

ALL good fire fighters want the best tools and equipment to work with and invariably are interested in new fire apparatus standards. The following changes in the NFPA-IAFC Standard No. 19 — "Specifications for Motor Fire Apparatus" were recommended by the Committee on Fire Department Equipment and were adopted during the NFPA 60th Annual Meeting in Boston, Massachusetts, in June.

Perhaps most important to many fire departments is the elimination of the Class B pumper standard on which acceptance was based upon discharge at 120 lbs. net pump pressure. As adopted, the present (Class A) requirement for discharge ratings at 150 lbs. net pump pressure will be the single basis of measuring pump performance. When two classifications were originally adopted, many of the small commercial truck chassis then in use could not provide sufficient power to meet the Class A rating. This condition no longer prevails.

Several changes were inserted in the section on "carrying capacity." First, a weight distribution formula is provided for apparatus having tandem rear axles and dual rear tires. Perhaps of greater importance is a new requirement "the total load on each axle shall not exceed the rating of the axle manufacturer." This particular requirement is considered important because it has been found that certain fire apparatus built on commercial truck chassis, while meeting the weight distribution and tire loading requirements, did not have front axles with sufficient load rating to safely serve as fire apparatus. The situation is particularly acute where a commercial chassis of low load rating is used to construct fire apparatus having a front mount pump.

It is believed that an inadequate front axle jeopardizes both the safety of the crew and the reliability of the apparatus. One chassis manufacturer has already withdrawn an axle from fire service use when made aware of the load that was being imposed upon it, even though the gross vehicle weight rating of the entire vehicle was not exceeded.

Another change in Standard No. 19 of extreme importance to fire fighters is the increase in the minimum size for booster tanks on pumpers from 150 to 200 gallons. As a single 1½-inch line discharges from 50 to 100 gpm or more with standard nozzles, a little more tank capacity is called for to provide time for getting the 2½-inch supply line connected for back-up purposes. Of course, it is realized that a majority of fire departments do specify a 300 gallon or larger water tank, but many cities and towns have bought standard apparatus without major modifications, because, in general, modifications cost extra money. Therefore, the Committee believes that a 200 gallon tank is the minimum size that can be considered satisfactory for service today. Of course, if a department buys apparatus without reference to the standards it may not expect to get the features called for in the specifications. In other words, if you do not specify that your new apparatus must meet NFPA No. 19, you may find that you have bought a new pumper which has only a 100 gallon water tank. Tanks of this capacity are still being supplied on non-standard apparatus.

Another new requirement is that the tank overflow shall not be located where spillage will adversely affect traction. There have been several accidents from this cause.

For years a manual choke has been the only type recognized for fire apparatus. This type is still required but the purchaser can specify an automatic choke.

One point of major concern to pump manufacturers, to underwriters engineers and others who test pumps, is a revision of the means of conducting the "spurt test." This test is designed to make certain that the new pumper has a reserve of engine power and will be able to deliver its rated capacity when the pump and engine are no longer brand new. The spurt test has previously required a delivery of 10 percent in excess of the volume of water required for the pump's rated capacity at 150 pounds net pump pressure. However, this presented a number of problems, such as changes in suction hose requirements, in suction lift, hose layouts, etc.

Accordingly, the new requirement is that the spurt test will be conducted by delivering the rated capacity from draft at 165 lbs. net pump pressure. This will not involve any change in test layout and will show that the pumper has a 10 percent power reserve. The spurt test is to be conducted without exceeding 90 percent of the peak motor speed of the certified brake horsepower curve taken from an actual production model of the engine employed.

In addition to the items mentioned above, several other changes are included in this new edition to provide the fire service with the most reliable and satisfactory fire fighting apparatus. Fire departments purchasing new apparatus are advised to use the latest edition of Standard No. 19 to make certain that their new apparatus conforms to current best standards of design and efficiency.

This standard is designed to be competitive so that any experienced builder of fire apparatus will provide equipment which may, with proper care, be expected to give good reliable performance.

THE following is a list of NFPA standards for which important changes were adopted during the recent Annual Meeting. These new standards will also be published in the forthcoming 1956 editions of the National Fire Codes which are

scheduled for publication in September. Bring your fire station library up to date with these separate, pocket-size editions or order a complete 6-volume set of the Codes next month.

Through membership in NFPA it is possible for a fire department to get one volume of the National Fire Codes free and the others with considerable discount in price. The Codes must be ordered when the NFPA fire department membership is being renewed.

Pocket size editions of the standards may also be purchased for discounted prices if quantities of 25 or more are purchased for a single mailing to one address.

	Price
No. 10 First Aid Fire Appliances	$ .50
No. 101 Building Exits Code	1.00
No. 12 Carbon Dioxide Extinguishing Systems	.75
No. 13 Sprinkler Systems	1.00
No. 19 Motor Fire Apparatus Specifications	.50
No. 194A Fire Hose Couplings	.25
No. 220 Standard Types Building Construction	.25
No. 231 Recommended Safe Practices for General Storage	.35
No. 295M Forest Fire Fighting Equipment	1.00
No. 30-L Flammable Liquids Ordinance	.50
No. 31 Oil Burning Equipment	.50
No. 32 Dry Cleaning Plants	.35
No. 328M Gases in Manholes and Sewers	.25
No. 403 Aircraft Rescue Equipment for Airports	.50
No. 407 Fueling Aircraft on the Ground	.50
No. 408 Aircraft Hand Fire Extinguishers	.25
No. 51 Gas Systems for Welding and Cutting	.35
No. 52 LP Gas Piping and Appliances in Buildings	.50
No. 56 Hospital Operating Rooms	.25
No. 565 Nonflammable Medical Gas Systems	.35
No. 58 Liquefied Petroleum Gases, Storage and Handling	.35
No. 59 LP Gases at Utility Gas Plants	.35
No. 60A Pulverized Coal Systems	.35
No. 65 Aluminum Processing, Finishing	.25
No. 601 The Watchman	.35
No. 69 Inerting for Fire and Explosion Prevention	.50
No. 70 National Electrical Code (Sept. 15)	1.00
No. 71 Central Station Signaling Systems	.35
No. 72 Proprietary Signaling Systems	.50
No. 73 Municipal Alarm Systems	.35
No. 90B Residence Type Warm Air Heating and Air Conditioning Systems	.35

Aerial view of Wanamaker Building fire showing some of the heavy caliber streams directed into the structure. (*Wide World Photo.*)

TWO-DAY WANAMAKER BUILDING FIRE

MORE than 600 fire fighters took part in the combat of fire which burned for more than two days in the Wanamaker Building, New York City, on Saturday, July 14. According to reports, some 50 million gallons of water were directed into the building, with the run-off causing extensive damage to nearby subway tunnels and service facilities. An estimated 150 fire fighters suffered injury or smoke inhalation during the two-day period.

First responding companies found the basement and sub-basement of the building so heavily involved that it was assumed that the fire had burned unnoticed for a number of hours. The structure was being demolished before the fire started and Fire Commissioner Edward F. Cavanagh, Jr., stated that sparks from a cutting torch could have been the cause. It was reported that a watchman patrolling the outside of the building smelled smoke early on the morning of July 14 but did not send the alarm until the fire burst into view.

Multiple alarm response brought a total of 55 pieces of apparatus from 22 engine companies and 5 ladder companies, in addition to a mobile fire control center and other special units. Deck guns, ladder pipes and other heavy streams were in operation until control was established. Metal clad floors and ceilings prevented streams from penetrating to the fire until various floors collapsed. Hydrants in the area are supplied by the Hill View Reservoir in Yonkers which is at an altitude of 290 feet, thus providing 100 pounds static pressure at the hydrants.

(*Left*) Fire fighters try to open a hole in the third floor of the building as intense fire progresses in the background. Note wyed lines at right side of picture. (*Wide World Photo.*)

Fire Problems Occasioned by Aircraft

by Warren Y. Kimball

Part IV

IT IS not our intention here to attempt to duplicate the information in bulletins and publications available from the NFPA Aviation Committee and other agencies dealing with crash fire fighting procedures on airports, or describing the arrangement and construction of various types of aircraft. We are viewing the matter as merely another variety of public fire department operational problems. However, there are certain things that fire officers and fire fighters should and must know about aircraft in order to operate with maximum safety and effectiveness wherever a crash fire or accident may occur.

Obviously, other things being equal, the fire officer who knows the most about aircraft will do the best job of fighting aircraft fires, just as the fire officer who knows the buildings in his district can do a better job. After all, aircraft are structures which, unfortunately, do not "stay put."

As pointed out there is a variety of types of aircraft of differing design. This poses some problems which we will deal with here. First we will be concerned with civil passenger-carrying aircraft.

Access. How do we get into the plane for rescue? Passenger planes have a normal entrance plus one or more emergency exits. These are not always easy to locate under fire conditions and may be difficult to open from the exterior. It is extremely helpful if fire fighters are familiar with the location and operation of emergency exit latches on various types of planes. They will also want to keep the exits protected with fog or foam if the exits are exposed to fire. This does not necessarily mean directing streams against exits. But they must be protected adequately from heat so that they can be used.

Access also involves, in most instances, particularly with large planes, the use of ladders and fire department forcible entry tools to reach the point of entrance. Some aircraft have markings on the side to indicate where entry may be made with cutting tools to enter the cabin. Aircraft crash crews have special axes and cutting tools for cutting through the aircraft "skin." However, under fire conditions, unless a person is familiar with the markings (if any) it may be difficult for municipal fire fighters to find the proper point of entry other than the doors. Planes have numerous fuel lines, oxygen lines, hydraulic lines, electric cables, etc., which may add considerable danger if severed. If forcible entry is required and "chop marks" are not visible, cut along the window lines to make entry with the least obstruction.

Knowledge of Interior. With airplanes, as with buildings, the interior fire fighting and rescue operations are the most hazardous and difficult. Knowledge of capacity and seating arrangements of various planes is very helpful as rescue personnel may need to wear masks and full protective clothing when working inside, because of smoke, gases, hot metal. Visibility will be at a minimum. They may need also to operate a 1½-inch line carefully inside the aircraft for cooling. They will need lights for illumination and tools for cutting seat belts and freeing occupants.

After the occupants have been rescued and the extension of fire is controlled, there still may be considerable fire fighting to do in mail and express cargo spaces, which frequently hold thousands of dollars worth of valuables. Knowledge of cargo spaces, while of secondary importance, is very useful.

Fuel Storage. Large aircraft carry great quantities of fuel. Knowledge of where this fuel is located can be of considerable importance to the fire fighter. Most planes have fuel storage in wing tanks, but the engine nacelles on multi-engine aircraft usually are in the wings so that there is danger that any engine fire, if not promptly controlled, may extend into the fuel storage. Some aircraft have a metal wall or partition to serve as a firestop between the fuel storage area in the wings and the passenger or crew compartment. Others lack this protective feature and frequently when fire fighters open a rear door to effect entry, fire flashes through the cabin because of the draft conditions created. For this reason it is frequently necessary not only to pro-

Two persons were trapped in this Air France Constellation which crashed and burned in Preston, Connecticut, August 3, 1954. Fire Fighters of the Preston Volunteer Fire Company (District No. 1) and nearby mutual aid companies, headed by Chief Arthur Barry, rescued them under severe fire conditions, then proceeded to save considerable quantities of mail and passengers' belongings by aggressive fire attack. Nose section at left was broken from fuselage at impact. (*Photo by Connecticut State Police.*)

tect the cabin from exterior fire such as ground spill but to have lines ready to control fire on the inside.

Nor can the fact that the fire seems confined or localized be taken as evidence that the fire and life hazard is under control. Lubricating oil, hydraulic fluid, or other combustibles, may be ignited and the fire can extend quite suddenly if effective control measures are not taken. Even if no ignition has followed a crash, the potential for a disaster is present and occupants should be removed promptly to a place of safety. Unauthorized persons must be kept at a distance until all hazards can be neutralized.

For many years gasoline has been the chief airplane fuel. Now, however, jet fuel is being used more frequently in aircraft. Most military jet fuel is a blend of gasoline and kerosene and differs little in burning characteristics from gasoline. This is known as JP-4. Some jet fuel is in the kerosene class (military grades known as JP-1 or JP-5). Some aircraft do use one of these two grades but don't count on it — besides, at crashes, a fuel "aerosol" is often created by the forcible release of the fuel. While kerosene will not ignite as easily or spread as rapidly, the hazard remains severe.

Sources of Ignition. Sources of ignition in aircraft are numerous. Fuel and other flammable liquids may be ignited in numerous ways but our chief concern is with ignition of spilled flammable liquids following crashes. If ignition has already occurred we will have a major fire on arrival. If not, we will cover with foam and/or flush with water while seeking to prevent ignition by sparks or heat sources. Electrical system components including batteries must be deenergized. Friction sparks capable of igniting fuel vapors can occur during "belly" landings on concrete runways. Static sparks can ignite fuel vapors as the static potential of the aircraft or its components may discharge on ground contact and be of sufficient intensity and duration to result in ignition. The most frequent ignition sources are hot engine surfaces and sparks or flame from engine exhausts. Rarely a source of first ignition, magnesium does, however, seriously complicate effective extinguishment and experience has proved it will re-

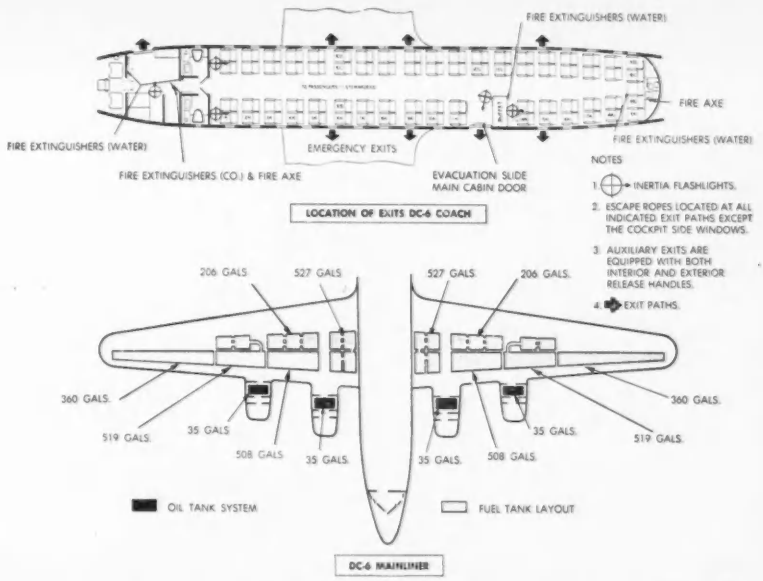


Diagram showing locations of exits, extinguishers and fuel on United Air Lines DC-6 Mainliner provides important information for fire fighters. The NFPA has published 4 charts on the Principles of Rescue and Principles of Fire Fighting for civil aircraft. These are available from the Association at 60 cents for the set. (Request Charts 403 — 1A, 1B, 2A, and 2B.) ***(Sketch courtesy of United Air Lines.)***

ignite flammable fuel vapors even when covered by a 6-inch depth of foam. Numerous cases are on record where ignition from varied sources has followed a crash after a considerable period of time, so never assume that a crashed plane is not a fire hazard until all fuel vapors are blanketed or disposed of and ignition sources deadened. Such time simultaneously must be used by fire fighters to effect rescues, get foam and fog equipment into service as needed, and neutralize all sources of ignition.

Engine fires may occur in flight and may cause a crash or a forced landing. Where a fire is confined to the engine the job is to keep it there before light metal parts heat and fail, resulting in extension of fire. If fuel lines to the engine involved can be shut off so much the better. Probably the pilot has already done this and discharged his craft's fire extinguishing agent.

To carry out a successful plane crash fire operation you need to know enough about airplanes to:

1. Make access for locating and rescuing occupants.
2. Understand the fuel and other flammable materials to be encountered.
3. Be aware of the possible sources of ignition and know how to eliminate them.

Firemen had to chop their way into this inverted and burning Western Air Lines plane at Los Angeles International Airport to rescue alive the trapped co-pilot.

Driver Training Course in Prince George's County

IN PRINCE GEORGE'S County, Maryland, volunteer fire companies are now testing fire apparatus on the course shown here. The test procedures are based on the "Roadeo" developed by the American Trucking Association, Inc., with modifications to create maneuvers most likely to be needed in fire department operations.

Drivers are evaluated according to the point sheets shown on the opposite page. There are seven general categories through which a driver can earn a possible point total of 700. Points are deducted for improper driving practices, lack of attention to safety, and misjudgment of movement or position.

A unique feature of the testing procedures is the placing of steel tumblers in the apparatus after Test No. 4. This permits a measuring of the smoothness of vehicle operation as the driver performs the various maneuvers. The tumblers also can be used to measure the braking efficiency since they will topple if the driver brakes too quickly.

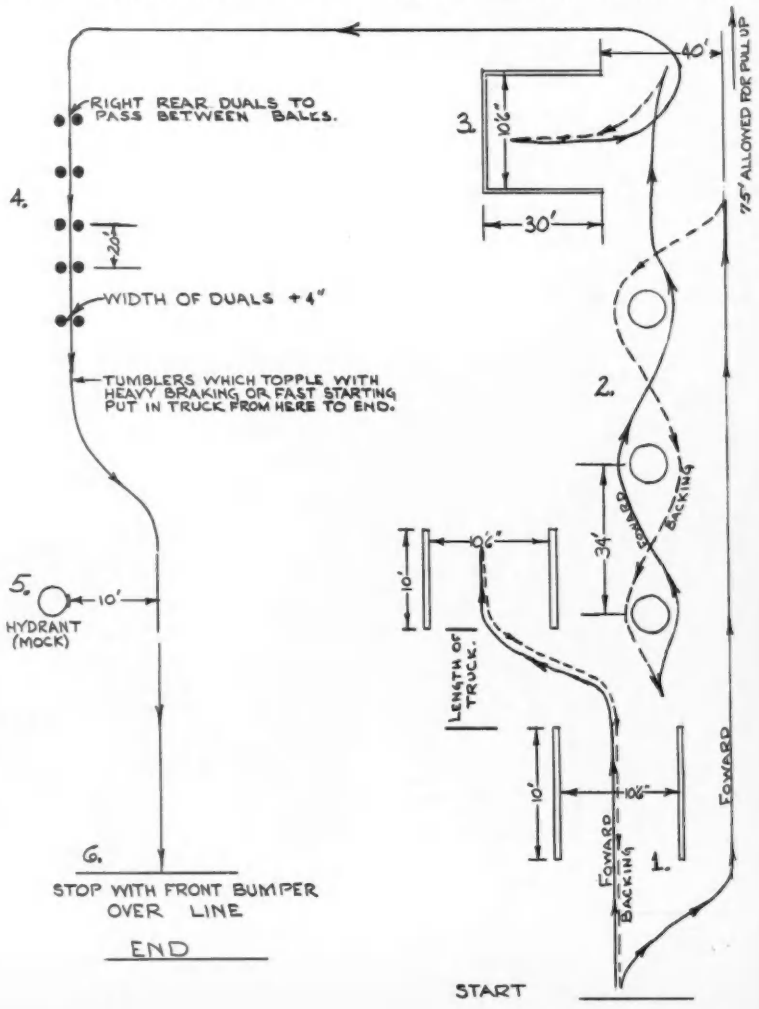
Other features of the course are arranged to give the drivers a fair test of most of the driving operations which they will encounter in ordinary fire apparatus response to an alarm.

These include parking, weaving the vehicle between an obstacle course, bringing the apparatus to a hydrant, straight line driving with the front wheel traveling along a painted or marked line, and bringing the vehicle to a stop in required position. As the charts show, each of these operations can earn certain point efficiencies or deficiencies according to observation of the judges.

Such a driver training course is relatively easy to make and many volunteer fire departments may wish to duplicate the layout adapted for Prince George's County. The course may be used to develop competition between drivers of one fire department, or between a number of fire departments. Primarily, though, it should be constructed to give drivers a fair test of ability and opportunity to improve techniques through practice and proper instruction. Course obstacles should be comparable to the type of obstacles prevalent in the particular area. In hilly or mountainous areas, special hill-climbing tests can be arranged. Similarly, rural fire departments who often must operate by drafting from ponds and water holes can arrange special tests for these problems.

Readers of FIREMEN who want further information on similar test courses can refer to the October and November, 1954 issues of the magazine. These described test procedures in the Boston, Massachusetts, and Oakland, California, Fire Departments respectively.

In the Boston Fire Department, the "Roadeo" concludes a special 14-week course given for fire apparatus drivers. This includes lectures, a written examination and comprehensive eyesight and physical coordination tests. Purpose of the safety education and training is to minimize vehicle accidents which involve fire apparatus. In some instances, drivers who had been in accidents were found to have vertical or lateral imbalance of vision which led to faulty judgment. Such a defect may be evident when a driver maneuvers in a "Roadeo."



PRINCE GEORGE'S COUNTY VOLUNTEER FIRE COMPANIES ROAD-E-O SCORE SHEET

	1st	2nd	Deduct.
1. Starting and Shifting Practices (each half of course), total 100 Pts.			
A. Starting (Two times, total of 20 Pts.)			
Fails to check for neutral depress clutch, arrange mirrors	( )	( )	(2)
Fails to release hand brake	( )	( )	(2)
Stalls engine or keeps starter engaged too long	( )	( )	(2)
Races motor unnecessarily to uneven start	( )	( )	(2)
Improper position of hands on wheel	( )	( )	(2)
B. Shifting (Lower to higher gears) Two times, total of 40 Pts.			
Shifts into first before motor idles, gears clash	( )	( )	(2)
Takes eyes off road to look at gear shift	( )	( )	(2)
Shifts into second too soon (7-10 m.p.h.)	( )	( )	(2)
Gears clash noticeably when shifting into second	( )	( )	(2)
Does not get shift lever into 2nd (deduct for each try)	( )	( )	(2)
C. Shifting (Higher to lower gears) Two times, total of 40 Pts.			
Takes eyes off road to look at gear shift	( )	( )	(2)
Puts in overdrive or other gear when taking out of third	( )	( )	(2)
Revs motor with clutch pedal depressed	( )	( )	(2)
Takes foot off gas pedal when disengaging clutch	( )	( )	(2)
Gears clash noticeably when dropping into second speed	( )	( )	(2)
Does not get shift lever into 2nd (deduct for each try)	( )	( )	(2)
Uneven stop or fail to signal for stop	( )	( )	(2)
Total Deductions			Pts.

		Deduct.
2. Offset Alley (Total 100 Points)		
Hits side stanchions when backing	( )	(20)
Realignment necessary when backing	( )	(20)
Goes back too far (over line or hits stanchion)	( )	(20)
Hits stanchion coming forwards	( )	(20)
Realignment necessary when coming forwards	( )	(20)
Total Deductions		Pts.

3. Serpentine Test (50 Pts. forwards and 50 Pts. backwards) Total 100 Pts.

	F.	B.	Deduct.
Brushes against or knocks down stanchion (deduct for each)	( )	( )	(10)
Uneven movement of apparatus	( )	( )	(10)
Stalls motor	( )	( )	(10)
Has to back up or come forward again (deduct for each)	( )	( )	(10)
Does not go hand-over-hand on steering wheel	( )	( )	(10)
Total Deductions			Pts.

			Deduct.
4. Alley Dock (Total 100 Points)			
Does not pull up sufficiently for back in		( )	(20)
Hits opposite curb entering or leaving (deduct for each)		( )	(20)
Does not back in or first try, has to "Jockey"		( )	(20)
Hits stanchion entering or leaving (deduct for each)		( )	(20)
Hits rear stanchion or crosses rear line of stall		( )	(20)
Total Deductions			Pts.

ROAD-E-O SCORE SHEET - (Con't)

		Deduct.
5. Hydrant Hook-Up (Total 100 Points)		
Hits Stanchion while positioning pumper	( )	(20)
Spots pumper too far ahead or too short of hydrant	( )	(20)
Spots pumper too close or too far out from hydrant	( )	(20)
Has to realign pumper (deduct for each)	( )	(20)
Hits stanchion when leaving problem	( )	(20)
Total Deductions		Pts.

	F	B	Deduct.
6. Straight Line Driving (Total 100 Points. (50 Pts. Forwards and 50 backwards.)			
Fails to use proper gear	( )	( )	(10)
Races motor unnecessarily	( )	(4)	(10)
Uneven movement of apparatus	( )	( )	(10)
Stalls motor	( )	( )	(10)
Front Wheel leaves line (deduct for each 25 Ft. section)	( )	( )	(10)
Total Deductions			Pts

		Deduct.
7. On-The-Nose Finish (Total 100 Points.)		
Hits side stanchion entering stall	( )	(20)
Necessary to realign vehicle, laterally or in depth	( )	(20)
Stalls motor	( )	(20)
Hits front stanchions	( )	(20)
Front bumper not within 12" of finish line	( )	(20)
Total Deductions		Pts.

Tumbling Cylinder - This test has been developed to measure braking efficiency by measuring maximum deceleration when the brakes are applied. It can also be used for measuring smoothness of motor vehicle operation by observing the cylinders that are overturned when a driver performs certain driving manoeuvers. The test has eight steel cylinders which measure braking efficiencies. Further details will be explained at the Road-e-o.

Score sheets used for tabulating "Roadeo" points for apparatus drivers of Prince George's County volunteer fire companies. Note in Section 1 that considerable attention is given to fundamental driving habits which are important to the safe and efficient operation of any vehicle.

FIRES IN THE NEWS

Columbia, South Carolina, July 13. Tear gas from a burglar alarm caused fire fighters trouble when fire occurred in the basement of the South Carolina National Bank. Two 750 gpm pumpers and a 1,000 gpm pumper of Chief A. McMarsh's Fire Department responded to the alarm at 7:20 a.m. The fire started in a switch because of defective or overloaded wiring, involved combustible floors, partitions and paper stock in the basement, then spread to upper floors through a combustible shaft. Eight firemen were overcome by tear gas and smoke. Damage was reported to be about $475,000.

Brewer, Maine, June 23. Members of the Brewer Fire Department, headed by Chief Fred R. Avery, fought this lumber mill fire for 6½ hours. It destroyed a wood mill and about 25,000 board feet of lumber, according to reports. Nearest hydrant was 600 feet away. Before electric power in the area was cut off, a 2,300-volt power line snapped, electrocuting a dog and forcing fire fighters to take additional precautions. Photo above illustrates intense heat conditions as men tried to protect two other power lines and close exposures. *(Photo by Daniel M. Maher, Bangor Daily News.)*

The Child — Your Best Customer for Fire Safety

From an address by Roger Muir, Executive Producer, NBC-TV, National Broadcasting Company, during the 60th NFPA Annual Meeting, Hotel Statler, Boston, Massachusetts, June 4–8, 1956

THROUGH the years, we producers in television have been called upon to aid a great many public service efforts. We have found that few of these efforts can be directed properly towards children. It seems to be completely impractical to attempt to raise funds from young children, in particular. As you can well imagine, every major philanthropic organization has contacted us directly or indirectly to aid in raising funds or bringing some message to our audience, be it cerebral palsy, multiple sclerosis or muscular dystrophy.

Taking muscular dystrophy simply for an example, we can't expect the young children to understand it, or sympathize with the needs of this particular cause. Nor should we burden children with some of these subjects. We can't even expect them to give us the correct pronunciation of many of the drives.

One area, however, stands out as a medium in which children's programming on television can participate actively. This is the "safety" area. Here, we should be able to utilize the full impact of sight and sound to teach the children positively.

It was through my search for the proper association for promoting children's safety, that I first came in contact with your organization.

Can television develop "customers" for fire safety? Can children really be considered customers?

We in the television business feel very strongly about this. Advertisers have answered this question for us with uncounted millions of dollars spent to reach this impressionable group. The logical conclusion is that children are prime customers. In 1955, alone, advertisers spent over four and one-half million dollars in network television to reach children through children's programs. One of the arguments that we use continually in selling children's programs, is that children exercise a tremendous influence on

Roger Muir
Executive Producer
NBC-TV

the purchase of products. A large number of children watch the shows, but do they believe the commercial message — and do they tell ma and pa they want the product? I'm sure you know what happens from some of your own personal experiences. But we needed something more concrete than a few isolated experiences. To investigate this topic further, NBC conducted a survey in December 1954 and again in January of 1955. Summarizing these surveys, we found that:

1) Children frequently pay as much attention to television commercials as to the program itself. This is particularly true for the animated cartoon type, jingles, and gift or premium offers.

2) They not only like to watch the commercial, they remember them well enough to repeat them and to both recognize and request the advertised products.

3) Nine out of ten mothers have been asked to buy a TV advertised product. Eighty-nine percent of these requests resulted in purchases.

4) The highest requested rate is among the five to eight year olds.

5) We also found from this survey that children influence brand switching. Sixty percent of the mothers have bought another brand of a product in addition to their regular brand to satisfy their children's requests.

A couple of weeks ago, in the "Bible" of show business, *Variety*, we read this headline — "Kids Influence Buying Habits." A survey concluded recently at Temple University gives some indication of why it makes sense to pitch the product at "Junior." This survey found that 73 percent of the families reported that kids in the house requested items advertised on children's video. As a result of these requests mom or dad came through 76 percent of the time. The article concludes with this salient point — an analysis of the reasons given for making purchases reveals that the children's requests were predominating influences.

If we are convinced that we are dealing with a problem area, a critical area, the child area, and if we agree that children can be sold on a product or an idea, then I am sure you will agree that we should be able to utilize many of the normal selling techniques to put across our fire prevention message to this prime audience. In addition, we can utilize the children to help influence the habits of the rest of the family, using the same means that advertisers have found so successful in reaching the entire family.

What techniques can we use best to sell this segment of our population?

We are operating in a rather unknown territory and I am certain that no one is expert in this particular field. I'm sure we have just scratched the surface of possible ways of selling ideas. We can, however, draw upon some of the normal product sales experience that has been fairly successful. In television we have found a "kid symbol" to be one of the most effective means of reaching the child. It is important, however, to note that these children's characters or symbols must be developed. It is important that they take on a personality.

Personalized selling, we have found, can be accomplished through a puppet, an animated character, or a live person. In the adult field I am sure few of you will question the sales impact of a Godfrey, a Kate Smith or a Garroway. And, in the animated field, almost every major sponsor has developed his own character to carry his particular message. In the puppet field, we can point to Kukla, Fran and Ollie, who are still primary salesmen, Howdy Doody, and even "Speedy" Alka-Seltzer. All of these personalized salesmen have produced results for their sponsors.

Howdy Doody, for example, has been credited with national sales of over thirty-five million dollars in merchandising as well as over one hundred million dollars in sponsor products. Premiums alone on this show have amounted to well over fifty million items. On other networks I'm sure you are all aware of the magnitude of the kid symbols such as the Disney characters.

Sparky, to me, is an ideal symbol character to carry your message to the child audience. It is important that he become known and established in the mind of every boy and girl in America. He will become a real personality. Sparky already has had a phenomenal growth.

I know that all of you are familiar with the Sparky fire department membership kits. Augmenting this, now, are such products as a fire chief hat, a Sparky polo shirt, and even a Sparky kerchief for girls. And, of course, the comic books and 25 cent storybooks all add to the development of Sparky.

Mass exposure of Sparky will expedite the complete establishment of this potential salesman. Some of you may know that we tried an initial series of fire safety messages on NBC last spring. Although simply produced, they were very well received by the children. An extension of the Sparky character into animated spots, billboards, books, etc, will carry the message forward with maximum effectiveness.

From our initial television experience with Sparky, we found it desirable to follow the theme of helping Sparky. In each case we tried to make a positive suggestion of something children could do. We know children like to participate, and in many cases, be directed with specific instructions. Positive suggestions lead to constructive results. Negative suggestions often result in disastrous results. As an example, one supposedly "public service" announcement telling children not to play with matches resulted in a number of children turning their attention to a previously unexplored area, with disastrous results. Tell the kids what to do! Don't tell them what not to do! (Surely they'll cross you up.)

I would like to summarize with these points:

1) Children are good customers.

2) In addition to the direct influence on the children themselves, they can be a vehicle to influencing the entire family.

3) A kid symbol can be utilized to expedite selling children.

4) Sparky is a good kid character or symbol.

5) Sparky can carry your fire prevention message.

From my personal experience, I know that broadcasters will welcome an opportunity to try to help put your message across. As I mentioned earlier, there are few public service projects that can be properly programmed in the children's area. I know that through your national officers, Sparky will be brought to the attention of all network people with specific suggestions, visual aids, and even filmed spots that easily can be utilized on a network basis. You, too, can aid the Sparky campaign by utilizing facilities in your region or area. I think you will find any fire safety message welcomed by program, promotion and station people and that other media will welcome an opportunity to work with you to help teach children and every family to have a true understanding respect for fire.

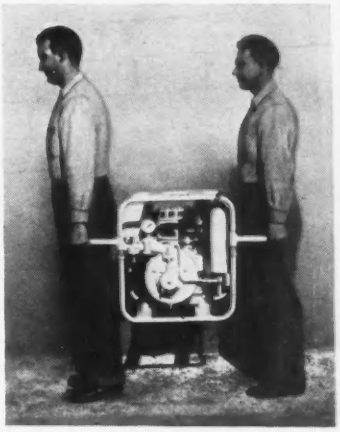
Are You Using "Sparky" for the Youngsters in Your Community?

For complete information on how to start a program write to **NFPA Public Relations Department, 60 Batterymarch Street, Boston 10, Massachusetts**

Hale Type FZZ

with NEW —

- **Ball-Type Valve**
- **Mechanical Seal**
- **Improved Priming**



Above — Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
- For "wetting down" and standby use, thus releasing major equipment.
- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
- For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.
- For factory protection in fighting fires before major equipment arrives.
- For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)

The FZZ will supply from draft two capable fire streams through 1½-in. lines. Performance substantially exceeds NBFU and NFPA capacity and pressure requirements.

Note: Discharge Adapter can be supplied for use with 2½-in fire hose.

Write for NEW FZZ folder today.

Ask for demonstration without obligation.

HALE FIRE PUMP CO.

CONSHOHOCKEN, PA.

Fire Pumps in All Standard Capacities

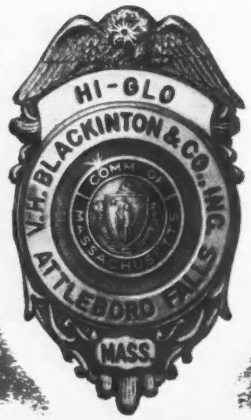
A TRICK?-Yes!

HERE'S HOW

All eyes will be on you when you perform this little mystifier. All you need is a handkerchief, a toothpick, and an audience! Wrap a toothpick in a handkerchief. Ask a spectator to break the toothpick in the handkerchief, then shake it out and behold! — the toothpick is magically whole again. Here's the secret: before performing, insert a toothpick in the hem of the handkerchief. During the trick, offer this toothpick to be broken, keeping the one provided by the spectator protected in the palm of your hand. It's simple to do, yet never fails to baffle. Try it!

A TRICK?-No!

No tricks are needed to focus all eyes on your handsome BLACKINTON badge. It's a real attention-getter, artistically designed and expertly made. A BLACKINTON badge is a badge you can be proud to wear.



Ask your equipment supplier to show you samples of BLACKINTON badges and see for yourself.

Have you seen the new Hi-Glo badge — the badge you can polish, polish, polish.

BLACKINTON

V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

BADGES AND UNIFORM INSIGNIA FOR EVERY SERVICE AND INDUSTRY

Iowa Fire Laws

THE Engineering Extension Service of Iowa State College, in cooperation with the Institute of Public Affairs, Iowa State University, has published a very informative book titled "Iowa Fire Laws." This 96-page, 6 by 9 in. edition describes fire laws and regulations in that State and also presents information on services available to fire organizations.

Approximately 90 per cent of the editorial content covers the laws of fire prevention and fire protection in the State of Iowa. It brings together, in digest form, references to the pertinent sections of the State's codes and Federal regulations. This useful information can serve as a guide to fire fighters, public safety officials, planning groups, attorneys, and other citizens. The various chapters discuss the following subjects in detail: Establishment of Fire Protection Facilities By Cities and Towns and Other Units; Financing Fire Protection Facilities; Fire Protection Personnel including Employment of Firemen and Appointment of Fire Chiefs, Civil Service Law, Compensation Pension Funds, Hours of Work, and other important topics; Authority of Local Units to Regulate for Fire Prevention; Fire Regulation of Public and Private Buildings and Premises; Fire Escapes and Other Means of Escape; Regulation of Hazardous Activities and Conditions; Inspections and Investigations; Fire Crimes; and Traffic and Motor Vehicle Laws Relating to Fire Protection.

Single copies of the book are priced at $2 each and may be purchased by writing to Engineering Extension, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa. Additional information may be obtained from Keith Royer, Supervisor, Firemanship Training, at the college.

Fire Departments and Boy Scouts

DURING 1955, Boy Scout units sponsored by fire departments increased in number by 152, bringing the total of such sponsored units to 1,366 in the United States. A total of 57,372 boys participated in these Scout units, which included

354 Cub Packs for boys eight to ten, 825 Boy Scout troops for boys eleven to thirteen, and 187 Explorer units for young men fourteen to seventeen years of age.

Strong popularity of such encouragement of Boy Scout troops by fire departments is indicated by the recent action of the International Association of Fire Chiefs, which appointed a committee to promote Scouting, with Chief Reynold C. Malmquist of the Minneapolis, Minnesota, Fire Department, as Chairman.

The following list shows the various states and the number of fire departments which sponsor Boy Scout units:

State	*Total Departments*	*Total Units*
Washington, D.C.	1	12
New York	1,750	337
New Jersey	457	87
Nevada	21	3
Pennsylvania	2,011	249
Connecticut	402	48
Rhode Island	136	15
California	691	75
Delaware	55	6
Massachusetts	392	31
Arizona	54	4
Oregon	245	17
Vermont	145	10
Colorado	220	14
Montana	141	9
Illinois	1,067	66
Ohio	1,067	63
Washington	389	23
Michigan	552	31
Virginia	252	14
Texas	675	31
Minnesota	552	25
Wisconsin	559	25
New Mexico	74	3
Iowa	782	31
South Dakota	293	11
Indiana	537	20
West Virginia	216	8
Kentucky	250	9
Maine	359	13
New Hampshire	256	9
Nebraska	487	14
Florida	217	6
Tennessee	191	5
Maryland	251	6
Utah	85	2
Oklahoma	267	6
Arkansas	173	3
Louisiana	175	3
Idaho	148	2
Georgia	245	2
South Carolina	122	1
Mississippi	142	1
North Carolina	323	2
Alabama	192	1
Missouri	347	7
Kansas	517	1
Puerto Rico	Unknown	3
Alaska	Unknown	2
North Dakota	289	0
Wyoming	37	0
TOTALS	18,809	1,366

Chief
F. R. DIMOND
OF HUTCHINSON, KANSAS

Says: We like
INDIAN
FIRE PUMPS

Because they are carried on the back leaving the men's hands free for climbing ladders, etc. We use them for all Class A fires. They are easy to get off the truck and on to the back of the men using them."

INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES

No. 90 Sliding Pump Type
(illustrated)

For all Class A fires and many Class B fires. Fire Chiefs say **INDIANS** are "worth their weight in gold."

●

Also available as **No. 80** with lever type pump and handle.

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D. B. SMITH & CO. "FOR 70 YEARS THE LEADERS"
408 MAIN ST., UTICA 2, N.Y.

PACIFIC COAST BRANCHES: Hercules Equipment & Rubber Company, Inc., San Francisco 7, Calif. - Halprin Supply Co., Los Angeles 15, Calif. - Fred E. Barnett Co., Portland, Oregon; Fred E. Barnett Co., Klamath Falls, Oregon - Mill & Mine Supply, Inc., Seattle 4, Washington - L. M. Curtis & Sons, Salt Lake City, Utah ● CANADIAN AGENTS: Fleck Bros. Limited, Vancouver, B.C. - C. E. Hickey & Sons, Ltd., Hamilton - Bison Hardware Co., Toronto

The Short, Evil Life of a Fire

An unusual viewpoint of fire action, written by G. Allen Grimm, Secretary, Chillum-Adelphi Volunteer Fire Department, and Assistant Fire Marshal for Prince George's County, Maryland.

I WAS a fire. My beginning was small but my effect was great. Let me relate the short story of my evil life.

It was a little after midnight on a dreary, cold Spring morning when I began my destruction. I started as a tiny flame on a match, held to a cigarette. From there, a small part of me dropped between the cushions of an overstuffed bedroom chair. I lay there smouldering for some time until I ate my way through to the open where I reached my favorite food, oxygen.

Gradually I picked up strength until I was beginning to crackle and roar with the heat I felt building up inside me. Then I heard a scream, and the door to the bedroom was pulled shut!

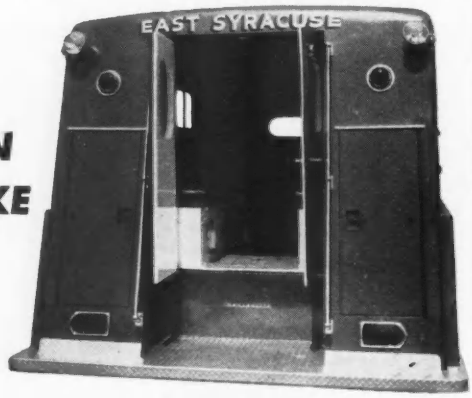
Insulted at being left alone, I began to gnaw at clothing, sheets and mattress, all the time feeling braver and more powerful. Then I heard a phone being dialed, and shortly, through the closed window, I heard the sound of the siren on the roof of No. 1 Fire Station. These sounds brought fear to my heart. Even now I heard a motor roar into life nearby and the sound of a car travelling up the road in the direction of No. 1. From other directions I could hear the movement of other cars speeding to the fire house.

Suddenly a shudder went through me as I heard the sound that meant my enemy was on my track, for the high-pitched wail of the sirens on the engines told me that water and apparatus were on the way. I knew that the men on this equipment were angry at being wakened to the cold and unknown danger of the night and would do their best to destroy me quickly.

Although these fear-inspiring sounds were echoing in my mind, I was becoming stronger and more confident, eating into the wood of the furniture and floors to feed my enormous hunger. Then a shriek of brakes announced that the first engine had arrived. I could hear others pulling up to the hydrants and close to nearby buildings. Heavy rubber boots clattered on the stairs and the firemen were at the bedroom door. There was a scurry as they adjusted their masks at their faces and voices shouting orders for the job to be done became muffled.

I roared and blistered the paint on the door as a warning to those who were to try and conquer me. Suddenly there was a splintering sound and a hole appeared in the door, soon to be followed by the tip of a shining nozzle. I threatened my greatest as a torrent of water rushed from its tip and began turning to steam. Steam! My mind raced madly! Steam would absorb my heat and leave me only a glowing ember. They were too quick for me again! I could feel the strength, which I had acquired,

IT'S ATTENTION TO DETAILS LIKE THESE, THAT EXPLAIN WHY



MORE and MORE
SHARPSVILLE EMERGENCY CARS

ARE SOLD TODAY!

Sharpsville

STEEL FABRICATORS, Inc.
SHARPSVILLE, PA.
BUILDERS OF SERVICE, CRASH AND LADDER TRUCKS • VOLUME AND HIGH-PRESSURE PUMPERS • SQUAD AND EMERGENCY CARS • STORAGE TANKS

leaving me and before I could make these firefighters draw back, I was reduced to a few hardy blazes spotted here and there among the ruins of the room. All was lost! Then I heard the door open and my thoughts leaped to the idea that if I could get more oxygen I would be strong again. This last chance was denied me, though, because helmeted figures bearing hose lines came through the doorway and after a few minutes of their efficient efforts, I was reduced to one glowing ember in the depths of the chair.

As I lay there trying to regain my strength, I could hear the noises the men made as they went about overhauling the ruins, searching for any heat which might indicate there there was still a chance for me to break out again. Time passed and I heard the furniture being moved piece by piece, from the room, and squeegees being used to gather the water in one spot to be taken up by mops and buckets. As the chair in which I hid was being carried out onto the lawn, I could visualize from the sounds, the activity that was going on. Hoses were being racked on the trucks, equipment was being wiped off and replaced, and the men were beginning to laugh and joke now that the job was done. Over the radios of the apparatus I heard the dispatcher placing the ambulance in service and the other pieces of apparatus being returned to quarters. The engines pulled slowly away, their bells ringing out the fact that the danger was over.

I hid there silently, thinking and gathering courage from the cool night air. Only one engine remained. As soon as it left, I, too, would be safe. But no. I heard booted footsteps coming in my direction instead of going toward the throbbing motor and flashing lights. Suddenly, my hiding place, the chair, was turned over as I, startled, released a small wisp of smoke. A gusher of water flooded over me and I realized that this was my end, beaten again by those men who are constantly standing by to prevent me from harming persons or property.

As the water stopped and my life ran out, I heard the words from the radio which meant that until another call came, fire was dead — "In service, returning to quarters."

Forest Fire Protection Compact

THE United States Senate and the House of Representatives have both approved a new forest fire protection compact for the Middle Atlantic states. As this issue of FIREMEN is being prepared the bill is now ready for the signature of the President.

The proposed compact would include the States of Delaware, Maryland, New Jersey, Pennsylvania, Virginia and West Virginia. Similar forest fire protection compacts are in existence for the New England and New York area, Southeastern states, and the South Central area of the United States.

Through such organizations, the states involved have established a comprehensive mutual aid system for fighting forest fires. A typical compact agreement provides for the training, transportation, and organization of thousands of men who can be used to fight large scale fires.

Better Hose Care-with CIRCUL-AIR
HOSE CONDITIONING EQUIPMENT
WASHERS • DRYERS • TURN-TABLES • STORAGE RACKS

NEW Roto-Jet HOSE WASHER
AUTOMATICALLY
WASHES — RINSES — DRAINS HOSE

ROTO-JET Washes, Rinses, Drains hose thoroughly and quickly. Hose is self-propelled. Simple one man operation. With or without detergents, ashes, dirt, mud and sludge are automatically scrubbed out and flushed away. Saves time. Lengthens hose life.

FIRE HOSE DRYER

The patented, electrically operated Circul-Air hose dryer circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life. No other drying method is so fast — so economical — so easy to use. Circul-Air is the preferred drying method in over 4,000 leading Fire Departments.

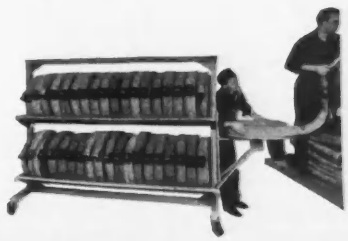
ACCEPTED — APPROVED — RECOMMENDED

Approved by Underwriters' Laboratories . . . and Canadian Standards Association. Recommended by all leading fire hose manufacturers.

LABORATORIES APPROVED

PORTO-RAK HOSE STORAGE and LOADING UNIT

Saves valuable space. Holds 1800 ft. of 2½" hose — proportionately more of 1½" — in an 8 ft. space (when loading table is detached). Roll it right up to the truck for complete hose reload — out of the way when not in use. Equipped with locking fiber wheeled casters.



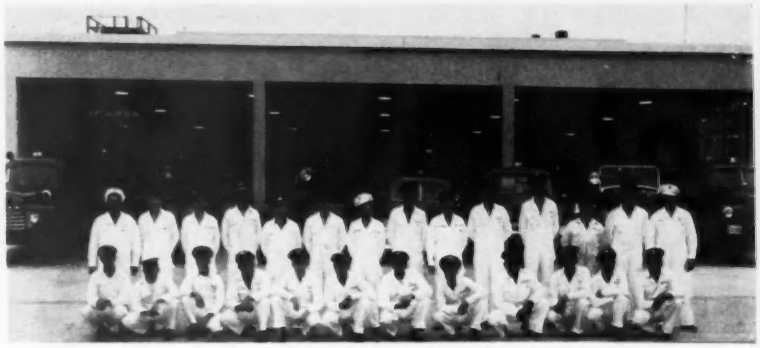
WRITE FOR NEW LITERATURE

If you are planning to build or remodel, send for our brochure "Fire Station Design."

THE CIRCUL-AIR CORPORATION 575 EAST MILWAUKEE DETROIT 2, MICHIGAN

New Station in Conroe

CHIEF P. H. Cranford of the Conroe Volunteer Fire Department in Conroe, Texas, has forwarded this picture of his new Central Station. This attractive one-story reinforced concrete structure houses six pieces in the apparatus room and has a dormitory, a meeting room, communications room, a chief's office, and a recreation room. The Department consists of forty members and has one other fire station. It furnishes protection to Montgomery County and portions of Liberty, Harris, and Walker Counties. All apparatus is equipped with two-way radio.



New Training Center

A NEW fire and rescue training center is to be built in Suffolk County, New York, some time within the next twelve months. It will be located on a 40-acre site near Yaphank and will represent the culmination of eight years of preliminary work by the Suffolk County Fire Advisory Board for Civil Defense, the Suffolk County Firemen's Association, and State and Federal Civil Defense Offices. The training center has been approved for development under the FCDA matching funds program.

Approval has been received for $37,500 for construction for a fire and rescue training tower four stories high with the top story simulating a warehouse roof. This building will incorporate the necessary features for actual fire fighting and hose and ladder work. An additional sum of $80,000 has been approved for a smoke house, water supply, pump equipment, storage facilities, pump drafting pits, fire test pits, a classroom, and other facilities. Further allocation of money is expected for buildings to house classrooms, an auditorium, kitchen facilities, and a control center for the training. Also planned is a special control tower for radio communication.

The proposed training center was announced during the recent Annual Convention of the Southern New York Volunteer Firemen's Association by Chairman Leander B. Chute, of the Suffolk County Fire Advisory Board for Civil Defense.

NFPA Regional Meeting
Hotel Statler
St. Louis, Missouri
November 26-28, 1956

750 Gallon Darley Ford Pumper

The pump is the Darley Champion Type SH750 manufactured exclusively by W. S. Darley & Co. and used on all Champion Fire Apparatus. A 3-stage centrifugal with superior engineering features which guarantee brilliant performance throughout the entire range of pumping requirements for fire fighting.

The SH Series Champions are double duty fire pumps which provide the complete range of volume performance for heavy streams plus the fire smashing efficiency of high pressure fog with 60 gallons per minute at 850 lbs. of pressure at the pump. Actual tests show the SH pump develops pressure to 1,000 lbs.

Write for Fire Equipment Catalog and Fire Apparatus Booklet
AT YOUR SERVICE: Sales and Service Representatives — East, Midwest, North, South

You'll want to know all about our low cost finance plan or combination PURCHASE-RENTAL plan.

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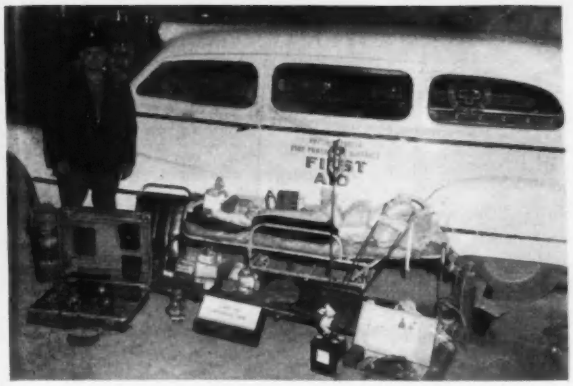


Chief "Ted" Daniels with ambulance and first aid equipment of the Nucla-Naturita Fire Department.

First Aid in Colorado

A CONVINCING argument for thorough first aid training was presented recently in a letter to NFPA from Chief Theodore S. "Ted" Daniels, of the Nucla-Naturita Fire Department, in Nucla, Colorado.

Chief Daniels points out that each of his thirty-six volunteer fire fighters has received Standard First Aid training. However, the location of the Fire Department and the transportation problems involved indicate that more advanced first aid training is desirable.

The Nucla-Naturita Fire Department is in the southwestern corner of Colorado, in the heart of the mining area. The Department protects a rural area, including many farms and mines, two uranium processing mills, and a number of rural dwellings. The nearest hospital facilities are in Grand Junction, just about 96 miles away. Doctors and clinics are in three of the surrounding towns, but no facilities are available for more than emergency treatment.

At times fire department members have had to render first aid to injured persons then transport them for at least two to five hours over the mountain roads to the nearest hospital. Chief Daniels states that members of his department must know how to apply traction, use oxygen, and administer treatment for shock, without the aid of a doctor.

The ambulance used by the Fire Department carries one unit of plasma, two units of dextrose, an industrial-size first aid kit, a "sterno" stove for heating water, and several types of burn treatments. The Department has operated the ambulance for the past two years and in that time has made ten trips to Grand Junction, forty-one trips to Montrose (57 miles distant) and sixty-three local trips (which he calls less than 50 miles one way). To raise money for the operation of the ambulance unit, the Department charges 8 cents a mile (based upon the total mileage for any patient). Other funds come from social events and donations.

Fire Record of Churches

DO YOU know the principal causes of church fires? According to the most recent Occupancy Fire Record published by the NFPA Fire Record Department, the following are the known causes of some of the major fires which destroyed or damaged churches during the past three years: heating systems, defective or overheated, 22.5 percent; incendiary 13.1 percent; electrical, 12.5 percent; smokepipes and vents, 8.5 percent; lightning, 7.9 percent; smoking and matches, 4.7 percent; candles, 4.4 percent; spontaneous ignition, 4.1 percent; exposure, 3.8 percent; sparks, 3.0 percent; chimney defects, 2.6 percent; space heaters, 2.6 percent; careless disposal of ashes, 2.0 percent; baptismal tank heaters, 1.7 percent; hot air ducts too near combustible construction, 1.4 percent; careless use of blow torches, 1.4 percent; rubbish near furnaces, 0.6 percent; thawing pipes with an open flame, 0.6 percent and miscellaneous known causes 2.6 percent.

This information and many other items of interest to fire fighters and fire protection authorities are detailed in the new 8½ by 11 in. pamphlet FR 56–4 "Churches." Priced at 50 cents per copy, the 16-page illustrated pamphlet also reports the factors contributing to fire spread in the 100 church fires analyzed, and gives a detailed breakdown of where the fires started. In addition, the pamphlet has a number of important references to NFPA technical standards containing recommendations applicable to churches.

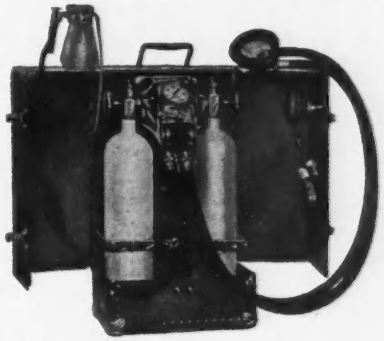
This bulletin is particularly useful to fire chiefs who want to impress the clergy with the need for proper fire prevention practices. It emphasizes the need for proper church exits and fire exit drills and calls attention to the problem of life safety during church social events.

Copies of FR 56–4 may be purchased from the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.

YEAR AFTER YEAR MANY LIVES ARE LOST

resulting from respiratory emergencies such as Smoke Suffocation, Gas Poisoning, Heart Attack.

The STEPHENSON PORTABLE RESUSCITATOR



Offers effective protection for you and others in your community.

SAFE SIMPLE QUICK

Write for FREE demonstration or for pamphlet R-104

STEPHENSON CORPORATION

RED BANK NEW JERSEY

"Makers of the Harger Drunkometer and Breathalyzer for determination of intoxication by analysis of breath."

Represented in Canada by WILSON & COUSINS, Toronto

EMERGENCY
POWER
when you need it with a
WINDPOWER
PORTABLE ELECTRIC PLANT
Operates smoke ejectors, flood lights, pumps and radio during fire emergencies. Lives can be saved when you are equiped with Portable Electric Power. Also permanent station installations with automatic line transfer controls which automatically cuts in stand-by power during failure or disaster. Investigate now—write for full information, illustrated folders and prices.
500 To 2250 WATT
WITH CARRYING HANDLES
OTHER MODELS UP TO 100 KW
WINPOWER
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Dept. G78, Newton, Iowa

MIDWESTERN
Safety Clothing for FIREMEN
The Original STRIPED SAFETY COAT
★ New Yellow Rubber Stripes!
★ Maximum Visibility!
★ Maximum Durability!
★ Exclusive Safety Features!
YOU deserve the BEST PROTECTION OBTAINABLE for your hazardous work of protecting life and property against fire. The Mackinaw Safety Coat with new yellow stripes is the answer! Highly visible stripes are rubberized as part of the material . . . not painted, glued or sewed on. There is no substitute for the superior quality, design, fabric texture and safety features you get by specifying MIDWESTERN!
QUALITY UNEXCELLED
For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.
MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois
Manufacturers of the Famous MACKINAW Safety Coats

British Fire Research 1955

THE annual report of the British Joint Fire Research Organization for 1955 describes a number of studies, among which three may be mentioned as representative. One describes work on dry powder in fire extinguishment including studies of its compatibility with foam. Another is a new testing technique for measuring more accurately the surface spread of flame, as on wallboard, for example. A third is the development of an apparatus for detection of flame through smoke, a portable equipment which, it is suggested, may be helpful to fire fighters since its accuracy is such as to pick up a candle flame through smoke at sixty feet.

S. H. Clarke, Director of the JFRO, was a speaker during the NFPA Annual Meeting in June and described parts of the British work more completely covered in the annual report.

"Fire Research 1955" is the title of the 78-page pamphlet available from H. M. Stationery Office for four shillings. In the United States it may be purchased through the British Information Services, 30 Rockefeller Plaza, New York 20, N. Y., for 72 cents per copy.

The Joint Fire Research Organization is a project of British insurance companies, through the Fire Offices' Committee, and the British Government, through the Department of Scientific and Industrial Research. The capital and current expenditures are shared equally by the government and the insurance companies. The 1955 report notes that, by agreement, the annual expenditures of the organization are to be increased gradually from the present level of just under 90,000 Pounds (approximately $250,000) to a maximum of 125,000 Pounds ($350,000). A professional staff of less than 80 will be increased gradually to over 100.

Extensive new buildings and equipment are to be provided at the Fire Research Station at Boreham Wood, Hertfordshire. A Fire Research Board which serves in a general advisory capacity on fire research has been supplemented by the appointment, during the past year, of a Committee on Industrial Fires and Explosions to furnish an additional advisory body.

Fire Prevention Week Contest

WITHIN two months fire departments throughout the nation will be focusing the public's attention on the need for fire prevention. There will be well-organized house-to-house inspection programs, school fire exit drills, "open house" for fire stations, thousands of demonstrations, lectures and radio and television programs. Newspapers and magazines, trade journals, industrial magazines and other periodicals, all will be devoting considerable space to Fire Prevention Week.

By now, most fire departments have made thorough arrangements for handling all of the Week's activities. Probably, the attention of each community will be well-captured and the important messages of fire prevention will make a lasting effect.

However, it is regrettable that many fire departments are willing to conclude publicity of their activities and accomplishments when Fire Prevention Week is over. There is an easy, convenient way to obtaining international recognition for these accomplishments.

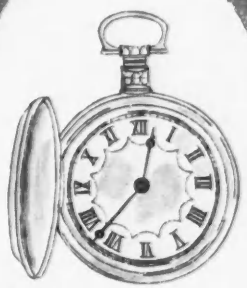
Any paid, call or volunteer fire department can enter the NFPA Fire Prevention Week Contest. Special entry forms are now available and can be obtained by writing to the NFPA Public Relations, 60 Batterymarch Street, Boston 10, Massachusetts. Also available is a reprint from the February, 1956, issue of FIREMEN, which describes the type of activities which brought honors to the winners of last year's Contest. Also described in the reprint are the activities of other fire departments who, while not winning top contest awards, still conducted many useful demonstrations in a professional manner to prolong the impression of Fire Prevention Week.

Contest entry blanks are also available for industrial fire brigades and for fire brigades of government and military organizations.

Entries in these three categories are judged on the basis of year-round fire prevention activities. Contest entries from municipal fire departments are judged on Fire Prevention Week activities.

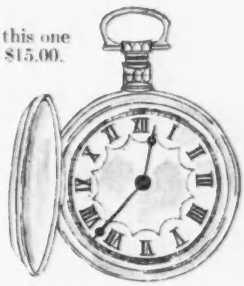
Closing date for entries for the Fire Prevention Week Contest is November 30, 1956.

THEY LOOK ALIKE BUT THERE'S ONE IMPORTANT difference



* This watch cost $150.00 . . .

and this one cost $15.00.



They *look* alike, but the more expensive watch will serve *faithfully* for many *generations* . . . the cheap watch will serve *erratically* for a few years—maybe months. *Which*, then, is the "cheap" watch?

THE *SAFEST* INVESTMENT IS BI-LATERAL FIRE HOSE . . . IT COSTS *LESS* TO BUY THE BEST!

If you want *safety* AND *savings*, one way to be sure is to *look at the record!*

Bi-Lateral furnishes *FREE* hose record cards—send for your supply today.

Here's a sample piece of fire hose—it looks just like the piece below—yet . . .

This fire hose is worth 10 times—maybe 1,000 times—as much!

Bi-Lateral hose is built *up* to a standard not *down* to a price! There's a *reason* for Bi-Lateral—it's to put out fires! It will prove to be your most *economical* purchase as well as your *safest* investment!

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Quantity		Quantity	
.....	1. Poster — $2.50 per 100, $17.50 per 1,000.	.....	10. Inspection Blanks — $1.00 per 100, $7.50 per 1,000.
.....	2. Facts About Fire — $2.00 per 100, $15.00 per 1,000.	.....	(a) Sparky's Home Inspection Blank.
.....	3. Display Card — 25c each, discount for quantities.	.....	(b) Mercantile.
.....	4. Blotter — $1.50 per 100, $12.50 per 1,000.	.....	(c) Industrial.
.....	5. Stickers — 30c per hundred, discount for quantities.	.....	11. (a) Folder — $2.00 per 100, $17.50 per 1,000.
.....	6. Sparky Coloring Book — 5c each, $5.00 per 100, $45.00 per 1,000.	.....	(b) Folder — $1.50 per 100, $12.50 per 1,000.
.....	7. Sparky Coloring Sheet — 75c per 100, $6.00 per 1,000	.....	(c) Folder — $2.00 per 100, $17.50 per 1,000.
.....	8. Flyer — $1.00 per 100, $7.00 per 1,000.	.....	(d) Folder — $2.00 per 100, $17.50 per 1,000.
.....	9. Comic Books — 5c each, $45.00 per 1,000.	.....	(e) Folder — $2.00 per 100, $17.50 per 1,000.
.....	(a) Sparky's story about the fire department.	.....	(f) Folder — $2.00 per 100, $17.50 per 1,000.
.....	(b) Early man and fire.		**Not Illustrated But Available**
.....	(c) Man learns more about fire.	.....	"Hello, I am Fire" Story Book — 5c each, $45.00 per 1,000.
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Prices subject to 2% discount if payment accompanies order. All prices F.O.B. Boston. **ORDERS SHIPPED EXPRESS COLLECT.** NFPA members may receive single copy of all items gratis. Others may receive samples of all items except Display Card (item 3) free upon request. Items No. 1, 2, 3, 4, 6, 9, 11(a), (b), (c), (d), (e), (f), and "Hello, I am Fire" have space for imprints of names of campaign sponsors which may be added locally by purchasers.

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street, Boston, Massachusetts

New Members in NFPA

THE following chiefs and fire departments recently joined the Association. Current NFPA Fire Department membership totals 2,281 fire departments and 26,901 men.

A recent survey of this membership showed that more than 50 percent of these fire departments subscribe to 10 or more copies of FIREMEN magazine. Many NFPA Fire Department members have ordered a subscription for every fire fighter in the department, since subscriptions cost only $1.25 per year when the membership is renewed. Why not ask each man in your department if he would like to get the magazine every month?

Alabama: Chief J. W. Nichols, Lafayette Volunteer Fire Department, Lafayette.

Arizona: Florence Fire Department, Florence.

Connecticut: Danbury Fire Department, Danbury.

Delaware: Elsmere Fire Company No. 1, Wilmington.

Illinois: Clarendon Hills Fire Department, Clarendon Hills.

Maryland: Independent Hose Company No. 1, Frederick.

Massachusetts: Yarmouth Fire Department, South Yarmouth.

New Hampshire: Chief Howard J. Randall, Etna.

New York: Chief Charles L. Johnson, Hamburg Volunteer Fire Department, Hamburg; Kingston Fire Department, Kingston; Verdoy Fire District, Watervliet.

North Carolina: Mineral Springs School District Volunteer Fire Department, Winston-Salem.

Pennsylvania: Rescue Company No. 1, Harrisburg.

Saskatchewan: Humboldt Volunteer Fire Brigade, Humboldt.

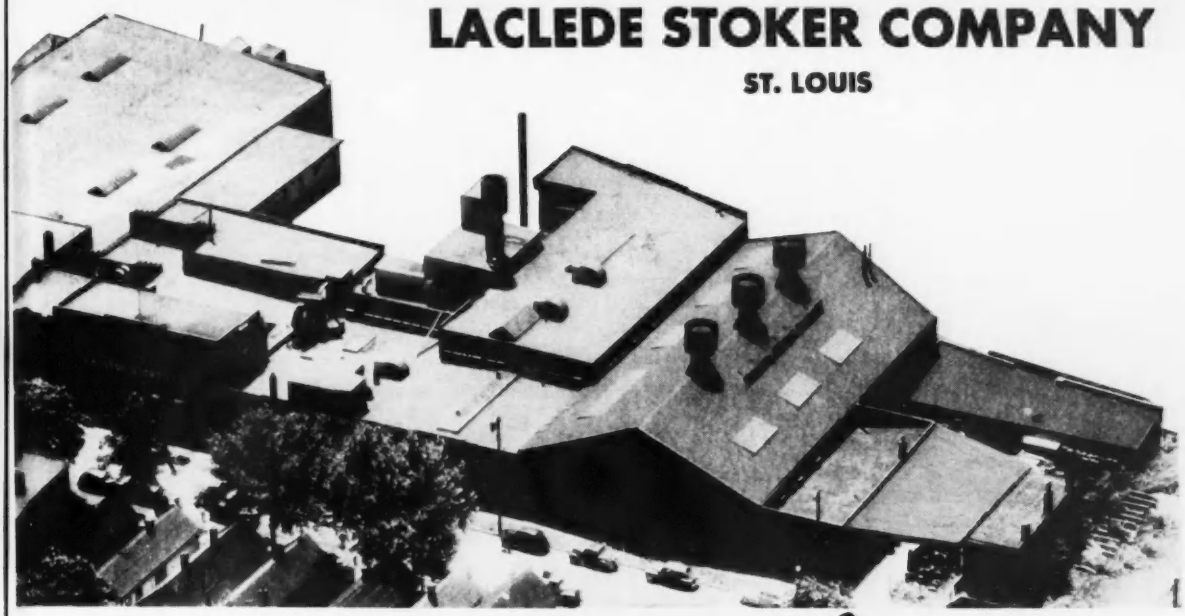
Tennessee: Gatlinburg Volunteer Fire Department, Gatlinburg; Whitehaven Fire Department, Whitehaven.

Suffolk County Conference

THE Fire Departments of Suffolk County, New York, held their Second Annual Field Conference at the Air Force Base at Westhampton on June 10. More than seven hundred fire fighters representing seventy-five departments took part in the activities conducted before several thousand spectators. Flammable liquid pit fires and large-scale, simulated airplane crash fires were created to permit extinguishment with low- and high-pressure water fog, foam, dry powder, and other extinguishing agents.

LACLEDE STOKER COMPANY

ST. LOUIS



protects its property *Automatically*... gets better FIRE and BURGLARY PROTECTION and *SAVES MONEY*

Twenty-two years ago ADT installed its systems to protect our entire plant ***automatically.*** *This gave us a service far superior to the methods previously used. With ADT, we have had 24-hour-a-day protection, even in unattended areas. This service has not only served us well, but it has been a great economy.*

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President and Treasurer

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A NATIONWIDE ORGANIZATION

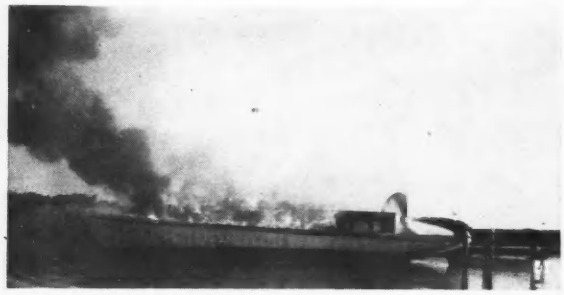
More than two decades of experience have given Laclede Stoker Company sound basis for commending the efficiency and economy of ADT Automatic Protection. The entire plant is protected against fire by ADT Aero Automatic Fire Alarm Service, and against burglary by ADT Central Station Burglar Alarm Service.

Mr. Kluge's comment is typical of opinions expressed by thousands of business executives from coast to coast who know that ADT Automatic Protection Services give greater security for property, profits and employees' jobs than other methods, and *at less expense.*

Why not find out what ADT can do for you?

Whether your buildings are old or new, *sprinklered* or *unsprinklered,* there is an appropriate ADT Automatic Protection Service to guard against fire, burglary, intrusion, heating-system failure, and other hazards. An ADT specialist will show you how combinations of these services can protect your property. Call our local sales office if we are listed in your phone book; or write to our Executive Offices.

TRAINING FOR BOAT FIRES



IN MARATHON, FLORIDA, recently, a boat owner allowed his craft to burn completely without calling the fire department. When queried by Chief R. O. BuShea, the man stated that since fire apparatus was not equipped with pontoons, he knew of no reason for sending a fire alarm.

To show that fire fighters could be of help during a boat fire, particularly if life safety was involved, Chief BuShea arranged for the demonstration shown in these photos. An old 62-ft. full cabin schooner was obtained and burned so that fire fighters of the Marathon Volunteer Fire Department could get training in this type of fire problem. A portable pump, operated from a small boat, supplied hose lines equipped with fog nozzles which controlled the blaze.

Currently the Department is conducting a campaign to call the public's attention to the need of sending a fire alarm in such boat emergencies. Newspapers have published instructions stating that if a boat fire occurs, the fire department should be informed promptly of the location. Then another boat should be made ready for transporting portable pumps and equipment over the water.

Other fire departments in seaside and resort areas might prepare for boat fire emergencies by adding similar training to their programs.

Useful fire protection information may be obtained from two pamphlets published by NFPA. No. Q46-12 — "Yachting Fire Safety" is a 6 by 9 in. reprint from the NFPA *Quarterly* and is priced at 25 cents per copy. NFPA No. 302 — "Fire Protection Standards for Motor Craft" is a 4¾ by 7¼ in., 40-page pamphlet priced at 35 cents. Discounts allowed for quantity purchases.

One for the money!
here it is . . . the
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For the volunteer's car . . . portability, compactness, light weight, HIGH INTENSITY . . . low current consumption . . . PRICE!

At a little more than *half the price* of the Beacon Ray you can *now* buy the nearest thing to *famous Beacon Ray protection!*

Write today for full information on the FEDERAL FIRE-BALL!

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FIRE SCHOOL DATES

Arizona: The State Fire Training School will be held in Phoenix, October 24–26. For further information write to Batt. Chief Jake Siken, 49 South 1st St., Phoenix, Arizona.

Illinois: The Southern Wisconsin and Northern Illinois Firemen's Association will conduct their Twentieth Annual Fall School on September 9 at the Savannah Ordinance Depot, Savannah, Illinois. For further information write to the Program Secretary, Kenneth Holt, Cassville, Wisconsin.

Indiana: The Twenty-third Annual Indiana State Fire School is scheduled to be held at Purdue University, September 11–14. For further information write to Norbert Lehman, Fire Instructor, Purdue University Division of Adult Education, Lafayette, Indiana.

Kansas: The 27th Annual Kansas Fire School will be held in University of Kansas, Lawrence, October 15–18. Write to Clyde A. Babb, 111 Fraser Hall, Lawrence.

Maryland: The 23rd Annual Short Course for Firemen will be held in University of Maryland, September 4–7. For further information write to Robert C. Byrus, Box 85, University of Maryland, College Park.

Michigan: The Alert Firemen's Association will sponsor the 3rd Annual Fire Training School for Volunteers at Lansing, September 15–16 and 22nd. Lieut. Arthur Foster of the Lansing Fire Department will again be chief instructor with other instructors from volunteer firemen's ranks. Chief Clayton Quenby of the Holt, Michigan, Fire Department will be general chairman. For further information write to Archie Burghdoff, 3289 Eaton Rapids Road, Lansing, Michigan, who is secretary.

New Hampshire: The New Hampshire State Fire School in late September. For further information write to H. Swain, Dir. Trade & Industrial Div., Department of Education, State House, Concord.

Ohio: The 11th Annual Fire School and the 3rd Arson School are scheduled to be held at Ohio State University in Columbus, September 10–14. For further information write to Wayne C. Jenkins, Chief, Fire Prevention Bureau, Division of State Fire Marshal, Columbus 15, Ohio.

Pennsylvania: The Eleventh Annual Fire Training School, sponsored by The Berks County Firemen's Association, will be held September 27–30, at Wyomissing. For further information, write to Charles Epting, Director, The Berks County Fire Training School, Berks County, Pennsylvania.

Virginia: The Virginia State Fire School will be held in Norfolk, September 10–14. For further information write to Clay A. Esterly, P.O. Box 1112, Martinsville.

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Plate 240

2½" quarter-turn valve on straight-way connection and 1½" quarter-turn valve on sensible lug swivel. Rough body, painted red, with polished bronze or chromium plated trim. Leather carrying strap.

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Deputy Chief Halligan has designed a new plaster hook.

It is very effective on TIN — WIRE LATH — 3-PLY VENEER — DOOR FRAMES, etc. IT IS PRICED LOWER THAN ANY COMPARABLE HOOK. TEST TRY SOME.

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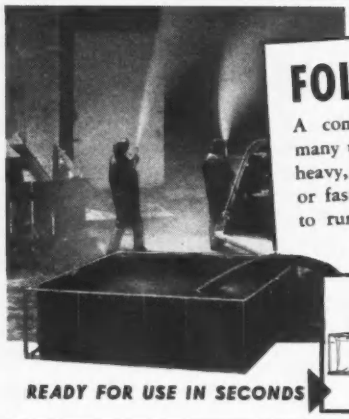
NEW FIRE EQUIPMENT, CATALOGS & BULLETINS

The Blitz Buggy Co., Main St., Old Forge, N. Y., announces that the new 4-wheel drive "Little Demon" 500-gallon pumper has received Class A rating by NBFU. . . . Easy to follow maintenance and repair procedures for Leece-Neville line of alternators are outlined in a new six-page illustrated folder. Write to *Leece-Neville Co.*, 1374 East 51st St., Cleveland 3, Ohio. . . . *C. R. Daniels, Inc.*, manufacturer of Dandux and Dan-Dry Salvage Covers, has opened a new office at 918 Langford Bldg., Miami, Florida, under Robert C. Casarietti. . . . A new automotive safety belt known as "Saf-Driv" has been introduced by *Ansul Chemical Co.*, Marinette, Wisconsin. . . . The *Fyr-Fyter Co.* has named A. C. "Bus" Trautwein to head two new company divisions: The Fyr-Fyter Division and an Accessories Division. John Lohrey will assist the newly elected General Sales Manager in the Accessories Division.

Bendix Radio Div. of *Bendix Aviation Corp.* has appointed Erwin Bernstein as mobile communications engineer in charge of sales, service and customer relations for Bendix two-way radio systems in New Jersey and Eastern Pennsylvania. . . . Just out on the market is a new line of communication and auto antennas manufactured by *Tenatronics, Ltd.*, 811 Union Commerce Bldg., Cleveland 14, Ohio. . . . Fire departments, plant fire brigades and manufacturers of fire fighting equipment may be interested in the convenience of Red Devil booster hose new carton packaging for 50-foot lengths. Write to *Thermoid Company*, Trenton 6, N. Y. . . . The 1956 8-page, 3-color catalog A-428, describing the complete line of Onan electric generating plants, is ready for you at *D. W. Onan & Sons, Inc.*, Minneapolis 14, Minnesota.

Motorola announces a new mobile two-way radio on any channel in the 25–54 megacycle band to operate interchangeably between 6 and 12 volt vehicles. Write to *Motorola Communications and Electronics, Inc.*, 4501 W. Augusta Blvd., Chicago 51, Illinois. . . . Ken Schlientz is the new Portland, Maine, district manager for *Mack Trucks, Inc.* . . . Just out is the revised edition of SMNA Handbook for The Industry, defining standards for the protection of users of fire-resistive equipment and burglary or robbery resistive equipment. Copies at $1.00 each are available through *Safe Manufacturers National Association*, 366 Madison Ave., New York 17, N. Y. . . . *E. D. Bullard Co.*, 275 Eighth St., San Francisco 3, Calif., has a new, six-page first aid catalog including an "Instant Guide to First Aid" card for wallet or purse. . . . A new self-powered, explosion-proof signal horn, which produces a distinctive warning signal to avoid confusion with plant whistles and other industrial sounds, is announced by *Falcon Alarm Co., Inc.*, 243 Broad St., Summit, N. J. . . . G. F. De Coursin, Vice President-Sales, announces two new sales representatives for *Four Wheel Drive Auto Company:* Capt. A. J. Mannweiler Organization, 313 9th St. S.W., Massillon, Ohio, and *General Safety Corp.*, 5520 Dorsey Lane, Washington, D. C.

Firemen and rescue workers might find the new portable underwater floodlight by Crouse-Hinds useful. Get complete information from *Crouse-Hinds Co.*, Wolf and Seventh North Sts., Syracuse, N. Y. . . . The 4½-foot high, animated "Sparky" with head movement, jaw action and tape play-back device shown at the June NFPA 60th Anniversary Meeting in Boston, is now ready for cummunity use during Fire Prevention Week. Write for particulars to *R. J. Mealey Corp.*, 51 States St., San Francisco 14, Calif.



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INDEX TO ADVERTISERS

	Page		Page
Akron Brass Mfg. Company, Inc.	4	Hale Fire Pump Company	17
American District Telegraph Company	27	Halligan Tools	29
American-Marsh Pumps, Inc.	31	Independent Protection Co., Inc.	30
Bi-Lateral Fire Hose Company	25	Midwestern Safety Mfg. Company	24
V. H. Blackinton & Company, Inc.	18	Mine Safety Appliances Company	2
Cairns & Brother, Inc.	26	Powhatan Brass & Iron Works	29
Circul-Air Corporation	21	Rockwood Sprinkler Company	3
W. S. Darley & Company	22	Sharpsville Steel Fabricators, Inc.	20
Federal Sign & Signal Corporation	28	D. B. Smith & Company	19
Fol-Da-Tank Company	30	Stephenson Corporation	23
		Winpower Mfg. Company	24

YOU'LL WANT THIS NEW BULLETIN . . .

New pictures, diagrams and helpful facts in this bulletin will be of special interest to smaller city, rural and volunteer firemen.

Large illustrations and point-by-point descriptions show exactly how—and why—the Barton-American Front-mounted Pump provides advantages *not available* on other pumps.

By reading it, you can inform yourself—and gain an excellent standard for comparison of pump performance, quality and operating characteristics at the fire.

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Here's the new, second edition of

"ATTACKING AND EXTINGUISHING INTERIOR FIRES"

By Lloyd Layman, former chief of the Parkersburg, West Virginia, Fire Department and author of "Fire Fighting Tactics."

Any person interested in fire control will find useful information in this book. Chief Layman's provocative theories on water fog application have commanded attention from fire fighters throughout North America. Two printings were necessary to meet the demand for the first edition.

Now, new experience with water fog application has led the author to prepare a second edition. It incorporates suggestions by fire department training officers of Boston, Massachusetts, and other large cities, where the first edition has been used as a training text. It also includes discussion of the use of masks by fire fighters who are operating fog nozzles. Other new topics include the possible effect of fog streams in situations favorable to backdraft or smoke explosions, and use of fog in combating cellar fires.

This new, 148-page edition of "Attacking and Extinguishing Interior Fires" should be in every fire station library. It will be a welcomed gift for any fire officer or fire fighter, and a useful reference book for any member of an industrial fire brigade.

Chapters Include:

Fundamentals Governing Interior Fires*
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